v,

```
Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                           Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM protein - protein search, using
   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
 1308
1308
1308
1308
1308
11004.5
1004.5
1004.5
1004.5
1004.5
874.5
874.5
874.5
874.5
874.5
874.5
874.5
874.5
874.5
                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 seq length: 0
seq length: 2000000000
 100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Issued Patents AA:*
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/FCTUS_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/backfIles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-774-076-1
1308
1 MRAPLLPPAPVVLSLLILGS......GEAEERKKLRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     February 26, 2005, 16:30:06; Search time 42 Seconds (without alignments) 447.894 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                           Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             513545 seqs, 74649064 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyright
                                                                                                                                                                                                                                                                                                                                           Length
  GenCore version (c) 1993 - 2005
                                                                                                                                                                                                                                                                                                                                             DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gapext 0.5
                                                                                                                                                       US-07-885-089B-7
US-09-976-594-582
US-09-919-039-228
US-09-919-016-11381
US-07-885-089B-35
US-07-885-089B-8
US-07-885-089B-8
US-07-885-089B-8
US-07-885-089B-8
US-07-885-089B-10
US-09-077-977A-1

5202428-10

5202428-10

5202428-10

US-07-885-089B-16

US-07-847-743B-17

US-08-456-201-17
                                                                                                         US-07-885-089B-34
US-07-885-089B-36
US-07-885-089B-37
5202428-9
                                                                                                                                                                                                                                                                                                                                           IJ
                                                                                               5202428-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sw model
                                                                                                                                                                                                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5.1.6
Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       513545
                                Sequence 7, Appli
Sequence 228, App
Sequence 228, Appl
Sequence 11381, A
Sequence 3, Appli
Sequence 9, Appli
Sequence 6, Appli
Sequence 10, Appli
Sequence 10, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 30, Appli
Sequence 37, Appli
Sequence 37, Appl
Sequence 1, Appli
Patent No. 5202428
Sequence 1, Appli
Patent No. 5202428
Sequence 1, Appli
Patent No. 5202428
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                           Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          252
 S
```

Query Match Best Local Similarity Matches 252; Conser	US-07-885-089B-7 US-07-885-089B-7 JSequence 7, Application US patent No. 5830995 JEANT NO. 583095 JELEYM TO. 58		28 454 34 30 454 34 31 454 34 32 454 34 33 454 34 35 440 33 36 433 35 37 356 27 38 347.5 26 40 320 24 41 320 24 42 320 24 43 320 24 45 320 24 45 320 24 45 320 24
100.0%; Score 1308; DB 2; Length 100.0%; Pred. No. 8.2e-122; vative 0; Mismatches 0; Indels	OT-885-089B-7 OT-885-089B-7 OT-885-089B-7 Equence 7, Application US/07885089B atent No. 5830995  APPLICANT: Shoyab, Mohammed APPLICANT: WcDonald, Vicki L. APPLICANT: Plowman, Gregory D. TITLE OF INVENTION: APPLIREGULINS: A FAMILY OF TITLE OF INVENTION: HEPARIN-BINDING EPITHELIAL CELL GROWTH NUMBER OF SEQUENCES: 3 CORRESPONDENCE ADDRESS: ADDRESSE: Pennie & Edmonds LLP STREET: 1155 Avenue of the Americas CITY: New York COUNTRY: USA ZIP: 10036 COMPUTER READABLE FORM: MCDIUM TYPE: Floppy disk COMPUTER READABLE FORM: MEDIUM TYPE: Tloppy disk COMPUTER: DATE: 18 MC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/07/885,089B FILLING DATE: 18 MAY-1992 CLASSIFICATION INFORMATION: NAME: COUZZI, Laura A. REFISENCE/DOCKET NUMBER: 5624-174 TELEFOX. 212-869-9741 TELEFOX: 212-869-9741 TELEFOX: 212-869-9741 TELEFOX: 212-869-9741 TELEFOX: 212-869-974 TELEFOX: 212-869-9741 TELEFOX: 252 amino acids TYPE: amino acids TYPE: amino acids TYPE: mino acids TYPE: mino acids TYPE: protein TOPOLOGY: unknown MOLECULE TYPE: protein	ALIGNMENTS	34.7 87 2 US-08-330-161-15 Se 34.7 87 2 US-08-446-241-17 Se 34.7 87 2 US-08-440-401-15 Se 34.7 87 2 US-08-419-878B-15 Se 34.7 87 3 US-09-173-480-15 Se 34.7 87 3 US-07-173-480-15 Se 33.6 79 2 US-07-885-089B-11 Se 33.1 85 2 US-07-885-089B-31 Se 27.2 78 2 US-07-885-089B-31 Se 27.1 78 2 US-07-885-089B-31 Se 27.1 78 2 US-07-885-089B-31 Se 27.2 79 2 US-07-885-089B-31 Se 27.1 78 2 US-07-885-089B-31 Se 28.5 87 1 US-07-847-743B-18 Se 24.5 87 1 US-08-456-201-18 Se 24.5 87 2 US-08-456-241-18 Se 24.5 87 2 US-08-440-401-16 Se 24.5 87 2 US-08-440-401-16 Se
252; 0; Gaps 0;	TH FACTORS		Sequence 15, Appl Sequence 17, Appl Sequence 15, Appl Sequence 15, Appl Sequence 15, Appl Sequence 17, Appl Sequence 18, Appl Sequence 33, Appl Sequence 11, Appl Sequence 31, Appl Sequence 32, Appl Sequence 31, Appl Sequence 31, Appl Sequence 11, Appl Sequence 12, Appl Sequence 13, Appl Sequence 14, Appl Sequence 15, Appl Sequence 16, Appl

밁 Ş 밁 Ś 밁

241

181

181

Ś 밁 Ş В

```
RESULT 3
US-09-919-039-228
, Sequence 228, Application US/09919039
, Patent No. 6727066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Furness, Michael
APPLICANT: Buchbinder, Jenny
FILE REFERENCE: PA-0041 US
CURRENT APPLICATION GENES EXPRESSED IN C3A LIVER CELL CULTURES TREATED WITH STEROIDS
CURRENT APPLICATION NUMBER: US/09/976,594
PRIOR APPLICATION NUMBER: 601240,409
PRIOR FILING DATE: 2000-10-12
PRIOR FILING DATE: 2000-10-12
SOFTWARE: PERL PROGRAM
SEQ ID NOS: 1143
SEQ ID NO 582
LENGTH: 252
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
NAMEKEY: misc feature
OTHER INFORMATION: Incyte ID No. 6673549 3478236CD1
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 2
US-09-976-594-582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 582, Applica Patent No. 6673549 GENERAL INFORMATION:
                                                                                                                                                       241 LRQENGNVHAIA 252
                                                                                                                                  LRQENGNVHAIA
                                                                                                                                                                                              CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK 240
                                                                                                                                                                                                                                                    SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFONFCIHGECKYIEHLEAVTCKCOOEYFGER 180
                                                                                                                                                                          CGEKŚMKTHŚMIDŚŚLŚKIALAAIAAFMŚAVILTAVAVITVOLRKOYVRKYEGEAŚERKK
                                                                                                                                                                                                                                SDKPKRKKKGGKNGKNRKNRKKKNPCNAEFONFCIHGECKYIEHLEAVTCKCQQBYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                           ŚEŁSPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPONKTESENT 120
                                                                                                                                                                                                                                                                                                                SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                           . MRAPILPPAPVVLSILIIGSGHYAAGIDINDTYSGKREPPSGDHSADGFEVTSRSEMSSG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                     MRAPĹĹPPAPVVĽSĹĹÍLGŚGHYAAGĹDĹNDŤYŚGKRÉPPŚGDHŚADGPEVTŚRŚEMŚŚG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <sup>82</sup>, Application US/09976594
6673549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LROENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ČĠĒKŚŅĶTHSMIDSSLSKIĀLĀĀIĀĀFMSĀVĪLTĀVĀVĪTVOLRRQÝVRKYĒĞĒĀĒĒRKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEABERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNPCIHGECKYIEHLEAVTCKCQQEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 1308; DB 4; 100.0%; Pred. No. 8.2e-122; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŚDKPKRKKKGGKKIGKNRKNRKKKNPCNAEFONPCIHGECKYIEHLEAVTCKCOOEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŚETSPVŚEMPSSSEPSSGADYDYSEEYDNEPOTPGYTVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                252
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 252;
                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                         <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                            APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
FILE REFERENCE: CL001307
CURRENT APPLICATION WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR APPLICATION NUMBER: 60/237,768
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-0-03
PRIOR FILING DATE: 2000-0-03
PRIOR FILING DATE: 2000-0-03
PRIOR FILING DATE: 2000-0-08
PRIOR PRIOR PRIOR OF SEQ 1D NOS: 207012
SEQ 1D NOS: 207012
SEQ 1D NO 11381
LENGTH: 322
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Kaser, Matthew R.

FILE OF INVENTION: GENES EXPRESSED IN TREATED HUMAN C3A LIVER CELL CULTURES
CURRENT APPLICATION NUMBER: US/09/919,039
FRICE PAILING DATE: 2002-09-09
PRIOR FILLING DATE: 2000-07-28
SOFTWARE: PRIL DAS: 401
SEQ ID NO 228
LENGTH: 252
TYPE: PRI
ORGANIAM: Homo Bapiens
PRATURE:
NAME/KBY: misc feature
OTHER INFORMATION: Incyte ID No. 6727066 3478236CD1

US-09-919-039-228
                                                                          ; ORGANISM: Human
US-09-949-016-11381
Query Match
100.0%; Score 1308; DB 4;
Best Local Similarity 100.0%; Pred. No. 1.2e-121;
Matches 252; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-949-016-11381
                                                                                                                                                                                                                                                                                                                                                  Patent No. 6812339
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                    11381, Ap
10. 6812339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 SDKPKRKKKGGKNGKNRKNRKKKNPCNAEFONFCIHGECKYIEHLEAVTCKCQOEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LROENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVOLRRQYVRKYEGEABERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SDKPKRKKKGGKNGKNRKNRKKKNPCNAEFQNPCIHGECKYIEHLEAVTCKCQQEYPGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ĊĠĔĸŚŃĸŦĤŚŇĹĎŚŚĹŚĸĹĀĹĀĀĹĀĀĒŇŚĀŶĹĹŦĀŶĀŶĹŦŶŎĹŔŖŎŶŶŖĸŶĔĠĠĀĔĔŖĸĸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEISPVSEMESSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SBÍ SÞVSEMÞSSSÉÞSSGÁÐYÐÝSEEYÐNEÞÓÍ ÞGÝ Í VÐÐSVR VEÓVVKÞÞÓNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MRĀPĪLĒPĀĀVVĪSĪLĪĪĀĠSGHYĀĀGĪDĪNDTYSGKRĒPFSGDHSĀDGFEVTSRSĒMSSG
                                                                                                                                                                                                                                                                                                                                                                                         Application US/09949016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 1308; DB 4;
Pred. No. 8.2e-122;
0; Mismatches 0;
                         Length 322;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
```

60 0

Matches

252;

В Ş В Ş 밁 Ş 밁 Ş 밁 Ś

241

٥,

Gaps

0,

```
밁
                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 5
US-07-885-089B-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                              US-07-885-089B-35
                                                                      Query Match
Best Local S
Matches 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 35, Application US/07885089B Patent No. 5830995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Shoyab, Mohammed
APPLICANT: McDonald, Vicki L.
APPLICANT: Bradley, James G.
APPLICANT: Plowman, Gregory D.
TITLE OF INVENTION: AMPHIREGULINS: A FAMILY OF
TITLE OF INVENTION: HEPARIN-BINDING EPITHELIAL CELL GROWTH FACTORS
                                                                                                                                                                                                                                                  TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: COTUZZI, LBUTA A.
REGISTRATION NUMBER: 30,742
REFERENCE/DOCKET NUMBER: 5624
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE! PatentIn Release #1.0, VG
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/885,089B
FILING DATE: 18-MAY-1992
CINCLUSTRATES 18-MAY-1992
                                                                                                                                                               MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                        Local 226;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 1155 AV
CITY: New York
STATE: New York
                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                TYPE: amino acid
                                                                                                                                                                                                                                                                                                         TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 18 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEB:
                                                                                                                                                                                                                                 ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             131
                                  27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     71
                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CŒKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SHISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 190
                                  LDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSGSEISPVSEMPSSSEPSSGADYDYSEE 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEISPVSEMPSSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
LDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSGSEISPVSEMPSSSEPSSGADYDYSEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1155 Avenue of the Americas
                                                                                                                                                                                                                                 226 amino acids
                                                                                                                                                                                                                                                                                                         212-869-9741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
                                                                      Conservative
                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pennie & Edmonds LLP
                                                                                                                                                                                               single
                                                                  90.0%; Score 1177; DB 2; 100.0%; Pred. No. 7.3e-109; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             252
                                                                                                                                                                                                                                                                                                                                                                5624-174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Version #1.30
                                                                                                      Length 226;
                                                                      Indels
                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       250
60
```

```
밁
                                                                                Ś
                  S
                                                                                                                    밁
                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 6
US-08-208-008C-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8.
                                                                                                                                                                                                                                                US-08-208-008C-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 9, Application Patent No. 5633147
                                                                                                                                                                                   Matches
                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 201-994-1744
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: MULLINS, J.G.
REGISTRATION NUMBER: 33,073
REFERRNCE/DOCKET NUMBER: 3258
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-994-1700
                                                                                                                                                                                                                                                                STRANDEDNESS:
TOPOLOGY: LIN
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS
LENGTH: 192 AMINO ACI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/08/
FILING DATE: March 8, 1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 INCI
COMPUTER: IBM PS/2
OPERATING SYSTEM: MS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: COSELAND
CITY: ROSELAND
CTATE: NEW JERSEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: MEISSNER, ET AL.
TITLE OF INVENTION: Transfor
TITLE OF INVENTION: Alpha -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: WORD PERFECT 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: U
ZIP: 07068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  147
121 SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                               192;
                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 87
                                                                                                                                                    H
                                                                                                                                                                                                                                                                                                                 AMINO ACID
                                                                         SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                  MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FMSAVILTAVAVITVQLRRQYVRKYEGEAEERKKLRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIALAAIAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIALAAIAA 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YDNEPQI PGY I VDDSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRRNRKKKNPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRRNKKKNPC
                                                    SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                  MRAPLLPPAPVVLSLLILGSGHYAAGLDLN-TYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FMSAVILTAVAVITVQLRRQYVRKYEGEAEERKKLRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E: CARELLA, BYRNE,
E: CECCHI, STEWART
6 BECKER FARM ROAD
                                                                                                                                                                                                                                                                                                                                 192 AMINO ACIDS
                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                    LINEAR
                                                                                                                                                                                                                                                                   PROTEIN
                                                                                                                                                                                                 77.6%;
99.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INCH DISKETTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US/08208008C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Transforming
Alpha - H1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US/08/208,008C
                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                 Score 1015.5; DB 1; Pred. No. 6.5e-93;
                                                                                                                                                                                                                                                                                                                                                                                                                                  325800-98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BAIN, GILFILLAN,
& OLSTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Growth
                                                                                                                                                                                   Indels
                                                                                                                                                                                                                  Length
                                                                                                                                                                                 1,
                                                                                                                                                                                 Gaps
                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 146
                                                    119
                                                                                                                    59
```

맑 S 밁

120

```
TELEFAX: 212-869-9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 247 amino acids
                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 77.5%;
Matches 196; Conservative 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, 1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -07-885-089B-2
                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Cotuzzi, Laura A.
REGISTRATION NUMBER: 30,742
REFERENCE/DOCKET NUMBER: 5624-174
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    equence 2, Application US/07885089B
atent No. 5830995
                                                                                                                                                                                                                                                                                                                                                        TYPE: ami
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: FILING DATE: 18-MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                         240
                                                   175
                                                                                                        115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 1155 A
CITY: New York
STATE: New York
                                                                             181
                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                61
                                                                                                                                                                                          61
                                                                                                                                                                                                               KLRQENGNVHAIA 252
                              CGEKŚMKTQŚMVDŚDLŚKIALAAIAAFVŚAMTFTAIAVFITILLKRRCLKGYEGVAEERK
                                              CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAV-ITVQLRRQYVRKYEGEAEERK 239
                                                                                                     SDKPKRKKKGGKNGKNRRNRKKKNPCNABFQNFCIHGECKYIEHLEAVTCKCQQEYFGER 180
                                                                                                                                        SETPÞGGEL-----SSVIDYDYABEYDNEÞÓÍSGYÍVDÐSVRVEÓVVKÞKKNKTESEKT
                                                                                                                                                           SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                ŚDKPKRKKKGGKNGKNRKNRKKKNLCDTEFONFCIHGKCTFLEQLETVSCQCYPEYFGER 174
                                                                                                                                                                                              MRAPLLPPAPVVLSLLIFGSAHYTAGLDVNDTYSGKGEPFSGDHSADRPEVTSRSEISSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 CGEKSMKTHSMID
                                                                                                                                                                                                                                                                                                                                                                    amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGEKSMKTHSMID 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E: Pennie & Edmonds LLP
1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          McDonald, Vicki L.
Bradley, James G.
Plowman, Gregory D.
                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-MAY-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mohammed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AMPHIREGULINS: A FAMILY OF
HEPARIN-BINDING EPITHELIAL CELL GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US/07/885,089B
                                                                                                                                                                                                                                                                 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              193
                                                                                                                                                                                                                                                        Score 1004.5; DB 2;
Pred. No. 1.2e-91;
9; Mismatches 31;
                                                                                                                                                                                                                                                                                    DB 2;
                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                   Length 247;
                                                                                                                                                                                                                                                      7;
                                                                                                                                                                                                                                                     Gaps
                                                                                                                                        114
                                                                                                                                                                   120
                                                                                                                                                                                              60
                                                                                                                                                                                                                         60
                               Ş
                                                               B
                                                                                      Ş
                                                                                                                    밁
                                                                                                                                            Ś
                                                                                                                                                                          B
                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                        WOLECULE TYPE:
US-07-885-089B-8
                                                                                                                                                                                                                                                                  Ouery Match 76.8%; Score 1004.5; DB 2; Best Local Similarity 77.5%; Pred. No. 1.2e-91; Matches 196; Conservative 19; Mismatches 31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 8
US-07-885-089B-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: 212-869-9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, v
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/885,089E
FILING DATE: 18-MAY-1992
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Coruzzi, Laura A. REGISTRATION NUMBER: 30,742
REFERENCE/DOCKET NUMBER: 56,
TELECOMMUNICATION INFORMATION,
TELEPHONE: 212-790-9990
                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Shoyab, Mohammeu
APPLICANT: McDonald, Vicki L.
APPLICANT: McDonald, Vicki L.
APPLICANT: Bradley, James G.
APPLICANT: Plowman, Gregory D.
APPLICANT: AMPHREGULINS:
                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
TOPOLOGY: unl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: 212-869-9741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
       235
                               240
                                                            175
                                                                                      181
                                                                                                                 121 SDK¢KRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                       61
                                                                                                                                                                                                 61
                                                                                                                                                                                                                           KLROENGNVHAIA 252
KLRQENGNAHAVA 247
                                       CGEKSMKŤQSMVDSDLSKÍALAAÍAAFVSAMTFŤALÁVFÍŤILLŔŔRCLŔGÝEĠVAEERK
                                                      SDKPKRKKKGGKNGKNRRNRKKKKILCDTBFQNFCIHGKCTFLEQLETVSCQCYPBYFGBR
                                                                                                                                                  SETPĖGGĖL-----ŚSVIDYDYABĖYDNĖPQISGYIVDDSVRVĖQVVKĖKKNKTĖSĖKT
                                                                                                                                                                   SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPBQNKTESENT 120
                                                                                                                                                                                                       MRĀPLLPPĀPVVLSILIFGSAHYTĀGLDVNDTYSGKGĒPPSGDHSĀDRPĒVTSRSEISSA
                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8, Application US/07885089B
o. 5830995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         235 KLRQENGNAHAVA 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10036
                                                                                                                                                                                                                                                                                                                                                                                                    247 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pennie & Edmonds LLP
                                                                                                                                                                                                                                                                                                                                                                           single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HEPARIN-BINDING EPITHELIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US/07/885,089B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5624-174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A FAMILY OF
                                                                                                                                                                                                                                                                                            DB 2; Length
                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CELL GROWTH FACTORS
                                                                                                                                                                                                                                                                                             247;
                                                                                                                                                                                                                                                               7;
                                                                                                                                                                                                                                                              Gaps
                                                                                             174
                                                                                                                                                    114
                                                                                                                                                                                                         60
                                                                                                                                                                                                                                    60
```

В Ş 밁 Ş 뭕 Ş В

```
NESULT 10
US-07-885-089B-10
; Sequence 10, Application US/07885089B
; Patent No. 5830995
                                                                                                                                   δ
                                                                                                                                                                      밁
                                                                                                                                                                                                    S
                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                              뭉
                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-07-885-089B-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-07-885-089B-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 6, Application Patent No. 5830995 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Shoyab, Mohammed APPLICANT: McDonald, Vicki L. APPLICANT: Bradley, James G. APPLICANT: Brownan, Gregory D. TITLE OF INVENTION: HEPARIN-B. NUMBER OF SEQUENCES: 37

CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 212-869-9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 248 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:

NAME: CÓTIZZI, LAURA A.

REGISTRATION NUMBER: 30,742

REFERENCE/DOCKET NUMBER: 5624

TELECOMMUNICATION INFORMATION:

TELEPHONE: 212-790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Re-lease #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: lin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: FILING DATE: 18-MAY CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEB:
                                                                                                                                      238
                                                                                                                                                                      174
                                                                                                                                                                                                        181
                                                                                                                                                                                                                                         114
                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                             55
                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                       1 MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 T: |1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              amino acid
                                                                                                                           RKKLRQENGNVHAIA 252
                                                                                                                                                                                           CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVA---VITVQLRRQYVRKYEGEAEE 237
                                                                                                                                                                                                                                        TEKPKRKKKGGKNGEGRRNKKKKNPCTAKFONFCIHGECRYIENLEVVTCNCHODYFGER
                                                                                                                                                                                                                                                                    SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER 180
                                                                                                                                                                                                                                                                                                         REVSTISEMPSGSELSTG-DYDYSEEYDNEPQISGYIIDDSVRVEQVIKPKKNKTEGEKS
                                                                                                                                                                                                                                                                                                                                           SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                        CGEKSMKTHSEDDKDLSKIAVVAVTIFVSAIILAAIGIGIVITVHLWKRYFREYEGETEE
                                                                                                                                                                                                                                                                                                                                                                            MRTPLLPLARSVLLLLVLGSGHYAAALELNDPSSGKGESLSGDHSAGGL-----ELSVG
                                                                                                      RRRLRQENGTVHAIA 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   248 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pennie & Edmonds LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-MAY-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AMPHIREGULINS: A FAMILY OF HEPARIN-BINDING EPITHELIAL CELL GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                69.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gregory D.
AMPHIREGULINS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/07885089B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vicki L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/07/885,089B
                                                                                                                                                                                                                                                                                                                                                                                                                                            28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5624-174
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 914; DB 2; Length 248; Pred. No. 1.1e-82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                              41;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                            10;
                                                                                                                                                                                                                                         173
                                                                                                                                                                                                                                                                                                                                                                           5.4
                                                                                                                                                                      233
                                                                                                                                                                                                                                                                                                           113
```

```
RESULT 11
US-07-885-089B-4
                                                                        밁
                                                                                                     S
                                                                                                                                          맑
                                                                                                                                                                      Ś
                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-07-885-089B-10
                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: 212-790-90:
TELEFAX: 212-869-9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/885,089B
FILING DATE: 18-MAY-1992
CLASSIFICATION: 530
ATTORNEY ACCURATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Shoyab, Mohammed
APPLICANT: McDonald, Vicki L.
APPLICANT: Bradley, James G.
APPLICANT: Plowman, Gregory D.
TITLE OF INVENTION: AMPHIREGULINS:
TITLE OF INVENTION: HEPARIN-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS
LENGTH: 248 amino aci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30,7
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION: TELEPHONE: 212-790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 1155 Ave
CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                        234 RRRLRQENGTVHAIA 248
                                                                                                                                                                             181
                                                                                                                                                                                                              114 TEKPKRKKKGGKNGEGRRNKKKKNPCTAKFQNFCIHGECRYIENLEVVTCNCHQDYFGER
                                                                                                                                                                                                                                            121 SDKPKRKKKGGKNGKNRKNRKKKOPCNAEFQNFCIHGECKYIEHLBAVTCKCQQBYFGER
                                                                                                                                                                                                                                                                                     55 REVSTISEMPSGSELSTG-DYDYSEEYDNEPQISGYIIDDSVRVEQVIKPKKNKTEGEKS
                                                                                                                                                                                                                                                                                                                      61 SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                               1 MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amino acid
                                                                                                RKKLRQENGNVHAIA 252
                                                                                                                                            CGEKSMKTHSEDDKDLSKIAVVAVTIFVSAIILAAIGIGIVITVHLWKRYFREYEGETEE
                                                                                                                                                                        CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVA---VITVQLRRQYVRKYEGEAEE
                                                                                                                                                                                                                                                                                                                                                           MRTPLLPLARSVLLLLVLGSGHYAAALELNDPSSGKGESLSGDHSAGGL-----ELSVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      248 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pennie & Edmonds LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                                                                                                                                                                                                69.9%; Score 914; DB 2; 69.0%; Pred. No. 1.1e-82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30,742
                                                                                                                                                                                                                                                                                                                                                                                                                           28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5624-174
                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A FAMILY OF
EPITHELIAL '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CELL GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                             10;
                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                             237
                                                                                                                                                                                                                173
                                                                                                                                                                                                                                                                                     113
                                                                                                                                                                                                                                                                                                                                                         54
```

Sequence 4, Application US/07885089B Patent No. 5830995

GENERAL INFORMATION:
APPLICANT: Shoyab
APPLICANT: McDona

```
US-07-885-089B-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Shoyab,
APPLICANT: McDonal,
APPLICANT: Bradley
APPLICANT: Plowman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                sequence 9, Application US/07885089B
                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-07-885-089B-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 243 amin-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 530
ATTORNEY AGENT INFORMATION:
NAME: COTRUZZI, LBULTA A.
REGISTRATION UNMBER: 30,742
REFERENCE DOCKET NUMBER: 5624
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: LEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/885,0891
FILING DATE: 18-MAY-1992
CLASSIBLICATION. 5-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 243 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 69.7 les 177; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Bradley, James G.
APPLICANT: Plowman, Gregory D.
TITLE OF INVENTION: AMPHIREGULINS: A FAMILY OF
TITLE OF INVENTION: HEFARIN-BINDING EPITHELIAL CELL GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         230 RRÍRÓENGTAHAÍA 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         239 KKLROENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSE: Pennie & Edmonds LLP
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 SDKPKRKKKGGKNGKNRRNR-KKKNPCNAEFQNFCIHGECKYIEHLBAVTCKCQQEYFGB 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 10036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MRÅPILPPAPVVISILIIGSGHYAAGLDINDTYSGKREPFSGDHSADGFEVTSRSEMSSG 60
Shoyab, Moname, Shoyab, Moname, Shoyab, Moname, Shoyab, Moname, Shoyab, McDonald, Vicki L.
Bradley, James G.
Plowman, Gregory D.
INVENTION: AMPHIRECULINS: A FAMILY OF SHOWN SHOWS AND SHOWS A FAMILY OF SHOWS SHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RČGEKTNKTOKKODSDĽSKÍAĽAAÍ I VÝVSAVSVAAI GIÍTAVLĽKKRFFKEYE-EÁBER 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVIT-VQLRRQYVRKYEGEAEER 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEVSTISEMPSGSELSTG-DYDYSEEYDNEPQISGYIVDDSVRVEQVIKPKENKTEGEKS 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MRTPSLSLALSVLSLLVLGSGHYAAGLELNGTSSGKGEPSSGDHSAGGLVV------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  212-790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66.9%; Score 874.5; DB 2; 69.7%; Pred. No. 9.3e-79;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/07/885,089B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5624-174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 243;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-07-885-089B-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Local Similarity
Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 1155 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   230 RRLROENGTAHAIA 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            239 KKLRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            212-869-9741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
```

Ś В Ş

```
RESULT 13
5202428-2
; Patent No. 5202428
; APPLICANT: SCHUBERT, DAVID
; TITLE OF INVENTION: DNA ENCODING NEUROTROPHIC GROWTH FACTOR
CURRENT APPLICATION NUMBER: US/07/590,359
FILING DATE: 27-SEP-1990
; PRICK APPLICATION NUMBER: 541,276
FILING DATE: 20-JUN-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 243 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 10036

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
PLICATION NUMBER: US/07/885,089B
FILING DATE: 18-WAY-1992
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATIN:
NAME: CON1771 1.81F3 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: COTUZZI, Laura A.
REGISTRATION NUMBER: 30,742
REFERENCE/DOCKET NUMBER: 562.
TELECHMUNICATION INFORMATION:
TELEPHONE: 212-790-9090
                                                                                                                                                                                                                                                                                                                                                                                             180 RCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVIT-VOLRROYVRKYEGEAEER 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     52 SEVSTISEMPSGSELSTG-DYDYSEBYDNEPQISGYIVDDSVRVEQVIKPKENKTEGEKS 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MRAPILPPAPVVISILIIGSGHYAAGIDINDTYSGKREPFSGDHSADGFEVTSRSEMSSG 60
                                                                                                                                                                                                                                                                                                                                                                   RCGEKTMKTOKKDÓSDLSKÍALAÁIIVFVSÁVSVAÁIGIÍTAVLLKKRFFREYE-EABER
                                                                                                                                                                                                                                                                                                                                                                                                                                                        MRTPSLSLALSVLSLLVLGSGHYAAGLELNGTSSGKGEPSSGDHSAGGLVV------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E: Pennie & Edmonds LLP
1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30,742
5624-174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 874.5; DB 2;
Pred. No. 9.3e-79;
4; Mismatches 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 243;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
```

229

170 179

51

**ы** 

```
RESULT 15
US-07-885-089B-34
; Sequence 34, Application US/07885089B
; Patent No. 5830995
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
5202428-2
;Patent No.
                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                             8
                                                                                                                                                                                 В
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5202428-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5202428-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO:2:
                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: SCHUBERT, DAVID
TITLE OF INVENTION: DNA ENCODING NEUROTROPHIC GROWTH FACTOR
NUMBER OF SEQUENCES: 10
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/590,359
FILING DATE: 27-SEP-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 541,276
ETILING DATE: 20-JUN-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                  171
                                                                                                                                                                                                             180
                                                                                                                                                                                                                                            111
                                                                                                                                                                                                                                                                           121
                                                                                                                                                239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      111
                                                                                                                       230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             230 RRIRQENGTAHAIA 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                         52
                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                     _
                                                                                                                                                                                                                                                                                                                                                                                   1 MRAPULPPAPVVLSILIIGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5202428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SDKPKRKKKGGKNGKNRRNR-KKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGE 179
                                                                                                                                                                                                    RCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVIT-VQLRRQYVRKYEGEAEER 238
                                                                                                                                                                                                                                                           SDKPKRKKKGGKNGKNRRNR-KKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQOEYFGE 179
                                                                                                                                                                                                                                                                                                      SEVSTISEMPSGSELSTG-DYDYSEEYDNEPQISGYIVDDSVRVEQVIKPKENKTEGEKS 110
                                                                                                                                                                                                                                                                                                                        SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                   MRTPSLSLALSVLSLLVLGSGHYAAGLELNGTSSGKGEPSSGDHSAGGLVV------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RCGEKTMKTQKKDDSDLSKIALAAIIVFVSAVSVAAIGIITAVLLRKRFFREYE-EAEER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEVSTISEMPSGSELSTG-DYDYSEEYDNEPQISGYIVDDSVRVEQVIKPKENKTEGEKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SHISPVSEMPSSSEPSSGADYDYSEEYDNBPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                     RRIRQENGTAHAIA 243
                                                                                                                                                  KKLROENGNVHAIA 252
                                                                                                                                                                                                                                            SEKPKRKKKGGKGGKGRRNRKKKKNPCAAKFQNFCIHGECRYIENLEVVTCHCHQDYFGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KKLRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVIT-VQLRRQYVRKYEGEAEER 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MRTPSLSLALSVLSLLVLGSGHYAAGLELNGTSSGKGEPSSGDHSAGGLVV-----
                                                                                                                                                                                  RCGEKTMKTQKKDDSDLSKIALAAIIVFVSAVSVAAIGIITAVLLRKRFFREYE-EAEER
                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                             66.9%; Score 874.5; DB 6; 69.7%; Pred. No. 9.3e-79; tive 24; Mismatches 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66.9%; Score 874.5; DB 6; 69.7%; Pred. No. 9.3e-79; Live 24; Mismatches 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       243;
                                                                                                                                                                                                                                                                                                                                                                                                                               13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13;
                                                                                                                                                                                                                                                                                                                                                                     51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                110
                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            51
```

```
Ś
                                                                               밁
                                                                                                                      Ś
                                                                                                                                                                   밁
                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                            US-07-885-089B-34
                                                                                                                                                                                                                                                        Matches 158;
                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 212-869-9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 158 amino acid
                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
STRANDEDNESS: sing
TOPOLOGY: unknown
MOLECULE TYPE: prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PATENTIN Release
CURRENT APPLICATION DATA;
APPLICATION NUMBER: US/07/
FILING DATE: 18-MAY-1992
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Coruzzi, Laura A.
REGISTION NUMBER: 30,742
REGISTON NUMBER: 56:
REFERENCE, DOCKET NUMBER: 56:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-790-9090
TELEPHONE: 212-790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Shoyab, Mohammed
APPLICANT: McDonald, Vicki L.
APPLICANT: Bradley, James G.
APPLICANT: Bradley, James G.
TITLE OF INVENTION: AMPHIREGULINS: A FAMILY OF
TITLE OF INVENTION: HEPARIN-BINDING EPITHELIAL (
NUMBER OF SEQUENCES: 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: New York
STATE: New York
COUNTRY: USA
                                                                                                                                                                                                                                                    Match 65.4%; Score 855; DB 2; Local Similarity 100.0%; Pred. No. 4.4e-77; Local Similarity 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
121
                      147 NABFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEK 184
                                                                               61
                                                                                                                         87
                                                                                                                                                                                           27 LDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSGSEISPVSEMPSSSEPSSGADYDYSEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10036
                                                                                                         YDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRRNRKKKNPC 146
NAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEK
                                                                               YDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRKNRKKKNPC
                                                                                                                                                                     LDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSGSBISPVSEMPSSSEPSSGADYDYSEE
                                                                                                                                                                                                                                                                                                                                                                                                                                               158 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E: Pennie & Edmonds LLP
1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                   single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/07/885,089B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #1.30
                                                                                                                                                                                                                                                                                              Length 158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CELL GROWTH FACTORS
                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                               86
                                                                                                                                                                     60
```

0

Search completed: February Job time : 44 secs 26, 2005, 16:45:48

OR SHAME OF THE SH

77

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                     Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               š
                                                                                                                       Database
                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                               Post-processing:
                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                   92:
                                                                                                                                                                                                            踞踞
                                                                                                                                                                                                          seq
seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein search,
                                                                                                                                                                                                          length:
 A Geneseq_16Dec04:*
1: geneseqp1990s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003s:*
7: geneseqp2003bs:*
78: geneseqp2004s:*
                                                                                                                                                                                                                                                                                                                                                                                                                  February 26, 2005, 15:47:23; Search time 164 Seconds (without alignments) 594.290 Million cell updat
                                                                                                                                                                                                                                                                                                              BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                           US-10-774-076-1
1308
                                                                                                                                                                                                                                                                                  2105692 seqs, 386760381 residues
                                                                                                                                                Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                            MRAPLLPPAPVVLSLIILGS......GEAEERKKLRQENGNVHAIA 252
geneseqp2001s:*
geneseqp2002s:*
geneseqp2003as:*
geneseqp2003bs:*
geneseqp2004s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Copyright
                                                                                                                                                                                                            2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GenCore version 5.1.6 (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                              Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               model
                                                                                                                                                                                                                                                       2105692
                                                                                                                                                                                                                                                                                                                                                                                                                  cell updates/sec
```

Bred. No. is the nuscore greater than and is derived by a is the number of results predicted by chance to have a ater than or equal to the score of the result being printed, rived by analysis of the total score distribution.

## SUMMARIES

The present invention describes a method for assessing whether a patient is afflicted with breast cancer. The method comprises comparing the level of expression of a marker (gene/polypeptide see ACC50076 to ACC5034 and ABR47386 to ABR47632) in a patient sample and the normal level of expression of the marker in a control non-breast cancer sample, where a significant increase in the level of expression of the marker in the

Breast cancer diagnosis or treatment by comparing the level of expression of a marker in a patient sample with that in the control non-breast cancer sample.

Claim 1; SEQ ID NO 13; 128pp; English.

WPI; 2003-210381/20. N-PSDB; ACC50082.

Lillie J, Gannavarapu M, Glatt K, Hoersh S, Kamatkar S; Mertens M, Monahan JE, Myer V, Wang Y, Xu Y, Zhao X, Meyers RE; Bast RC, Hortobagyi GN, Pusztai L, Meric F, Sahin A, Mills GB;

45	44	43	42	41	40	39	38	37	36	35	34	ω ω	32	31	30	29	28	27	0
211.5	211.5	211.5	211.5	211.5	211.5	211.5	211.5	211.5	216	231	246.5	259	283	325.5	347.5	355	356	440	744
16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.5	17.7	18.8	19.8	21.6	24.9	26.6	27.1	27.2	33.6	33.0
208	208	208	208	208	208	208	208	208	46	46	462	44	49	82	79	78	78	107	4
ω	w	w	N	N	N	N	N	N	w	v	2	σ	œ	μ.	N	N	N	<u>ب</u>	^
AAY90408	AAY90406	AAY58999	AAR92897	AAR92898	AAR80787	AAR80785	AAR66190	AAR23998	AAB34955	AAG66053	AAR91735	AAE36798	ADN48882	AAP95451	AAW73150	AAW73149	AAW73151	AAP95449	WAY / DIOS
Aay90408	Aay90406	Aay58999	Aar92897	Aar92898	Aar80787	Aar80785	Aar66190	Aar23998	Aab34955	Aag66053	Aar91735	Aae36798	Adn48882	Aap95451	Aaw73150	Aaw73149	Aaw73151	Aap95449	DOM / UTUS
Monkey HE	Human HBE	Human hep	Human HBI	Monkey HI	Monkey pr	Human pre	Diphtheri	EGF/HB-EH	Gene 29 h		Heregulin	Human amp	Amphiregu	Protein 8	Rat amphi	Bovine an	Mouse amp	Sequence	dine ment

## ALIGNMENTS

```
21-JUN-2001; 2001US-0299887P.
27-JUN-2001; 2001US-0301572P.
18-JUL-2001; 2001US-0306501P.
25-SEP-2001; 2001US-0325002P.
05-MAR-2002; 2002US-0362585P.
14-MAY-2002; 2002US-0380391P.
                                                                                                                                                                                                                    16-JAN-2003.
                                                                                                                                        (MILL-) MILLENIUM PHARM INC.
                                                                                                                                                                                                     21-JUN-2002; 2002WO-US019669
                                                                                                                                                                                                                                 WO2003004989-A2.
                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                            Human; breast cancer; cytostatic; gene therapy.
                                                                                                                                                                                                                                                                         Breast cancer associated protein sequence SEQ ID NO:13.
                                                                                                                                                                                                                                                                                        12-JUN-2003
                                                                                                                                                                                                                                                                                                      ABR47391;
                                                                                                                                                                                                                                                                                                                  ABR47391 standard; protein;
                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                    252
                                                                                                                                                                                                                                                                                                                    ₽
```

```
RESULT 2
ABUS 7614
ID ABUS
XX ABUS
AC ABUS
XX DIFF
XX USCO
PM USCO
PM USCO
XX Homo
XX Homo
XX Homo
XX Homo
XX CHE

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                            The invention describes a combination which are differentially expressed in
                                                                                                                                                                         New cDNAs, which are differentially expressed in (metastatic) breast cancer useful for diagnosing or staging, breast cancer, or for monitoring the treatment of breast cancer in an individual.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ន្តន្តន្តន្តន្តន្ត្
                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2003-182653/18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-OCT-2000; 2000US-0238331P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-OCT-2001; 2001US-00974298,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (CHEN/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-OCT-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US2002156263-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Breast cancer; differential gene expression; BC-cDNA; breast cancer diagnosis; breast cancer monitoring; breast cancer treatment; breast cancer staging.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Differentially expressed breast cancer associated protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-APR-2003; (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABU57614;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABU57614 standard; protein; 252 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           patient sample and the normal level is an indication that the patient is afflicted with breast cancer. The breast cancer associated sequences from the present invention have cytostatic activities and can be used in gene therapy. The method is useful for diagnosing and treating breast cancer. By the sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHEN H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181 CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYBGEABERKK
                                                                                                                                     SEQ ID NO 2; 30pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 SDKPKRKKKGGKNGKNRKNRKKKNPCNAEFONFCTHGECKYIEHLEAVTCKCQQEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 ŚBÍŚPVŚEMPSŚŚEPŚŚGADYDYŚEEYDNEPQIPĠYIVDDŚVRVEQVVKPPONKTEŚENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tch 100.0%; Score 1308; DB 6; al Similarity 100.0%; Pred. No. 2.2e-113; 252; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LROENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ČĠĒŔŚMŔŢĦŚMĪĎŚŚĹŚĸĨĀĹĀĀĨĀĀFMŚĀVĪĨŢĀVĀVĪŤVQĹŖŔQŶVŖĸŶĒĠĒĀĒĒŖĸĸ 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŚDK PKRKKK KOŚKOKO KONTROWIEK KO POWIECI W PROCEKTO W PROCESTO W POWIECKO W P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MRAPLLPPAPVVLSILILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSENSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  252 AA;
of cDNAs (designated BC-cDNAs), breast cancer. The combination
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
```

```
RESULT 3
ADE77063
                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           გგგგგგგგგგგგგგ
               WPI; 2004-031227/03.
N-PSDB; ADE77062.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cc includes 152 cDNA sequences, or their complements. The protein encoded by cc any of these BC-cDNAs is useful for screening several molecules or compounds to identify at least one ligand that specifically binds the protein, producing or preparing polyclonal or monoclonal antibodies, or cc purifying antibodies from a sample. The antibodies, which specifically compounds to the protein differentially expressed in breast cancer is useful for cancer. This is the amino acid sequence of a differentially expressed in cf. or staging, breast concer associated protein. Note: The sequence data for this part of the printed specification, but was obtained in cc sequence format directly from the US patent office at at concer associated protein. Note: The sequence data for this patent cc electronic format directly from the US patent office at xxx sequence of a directly sequence. html?DocID=20020156263
                                                                                                   28-JUL-2000; 2000US-0222113P.
                                                                                                                            30-JUL-2001; 2001US-00919039.
                                                           Kaser MR,
                                                                               (KASE/) KASER M R.
                                                                                                                                                                                     US2003108871-A1.
                                                                                                                                                                                                               human; liver disorder; hyperlipidaemia; hypertension; type II diabetes; tumour; liver; inflammatory disorder; immune response disorder; high-throughput screening; differential gene expression; gene therapy.
                                                                                                                                                             12-JUN-2003.
                                                                                                                                                                                                                                                                             Human protein expressed in a liver disorder #62.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                             29-JAN-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                ADE77063;
                                                                                                                                                                                                                                                                                                                                                              ADE77063 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LROENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVOLRROYVRKYEGEAEERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGEKSMKTHSMÍDSSÍSKÍALAAÍAÁFMSÁVÍLTÁVÁVÍTVÓLRROVVRKYEGEÁBERKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SDKPKRKKKGGKNGKNRNRKKKNPCNAEFQNFCTHGECKYIEHLEAVTCKCQQEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SDKPKŔKKKĠĠĸŃĠĸŊĸĸŊĸĸĸĸĸĸŶĊŊŶĊŊŊĠĊŢijĠĠĊĸŶŢĠijŢĠĸŶŢĊĸĊĠŎĠŶŶĠĠĸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŚŚŚŚPVŚEMPŚŚŚEPŚŚGADYDYŚŚEFYDNEPQIPGYIVDOSYRVEQVYKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 1308;
100.0%; Pred. No. 2.;
Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                   252
                                                                                                                                                                                                                                                                                                                                                              252 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 6;
:.2e-113;
s 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
```

Composition comprising several cDNAs that

are differentially expressed

in

the

```
RESULT 4
ADH17052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 for treating liver disorder such as hyperlipidaemia, hypertension, type CC II diabetes, tumours of the liver and disorders of the inflammatory and immune response. The composition is useful for a high-throughput method CC immune response. The composition is useful for a high-throughput method CC of screening several molecules or compounds to identify a ligand which specifically binds a cDNA. A protein encoded by the cDNA is useful for a CC high-throughput method for using a protein to screen several molecules or compounds to identify at least one ligand which specifically binds the CC protein which involves combining the protein encoded by the cDNA with several of molecules or compounds under conditions to allow specific binding, and detecting specific binding between the protein and a CC molecule or compound, therefore identifying a ligand which specifically binds the protein. The composition is useful for detecting and CC quantifying differential gene expression, can be used in gene therapy, to CC formulate prognosis and to design a treatment regimen and to monitor the efficacy of treatment. The present sequence represents the amino acid sequence of a protein encoded by a cDNA differentially expressed in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 252
                                                                                                     tyrosine kinase activity; type 1 plasminogen activator inhibitor; PAI-1; TIMP-1; tissue inhibitor of metalloproctanae 1; vinculin; vascular endothelial growth factor; VBGF; placental growth factor; PLGF; migration inhibitory factor; MIG; human; amphiregulin.
                                                                                                                                                                                                              11-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          treated human C3A liver disorders.
                                              WO2003097854-A2
                                                                                                                                                                                                                                                                      ADH17052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to differentially expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1;
                  27-NOV-200
                                                                          sapiens.
                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                               amphiregulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                                                                                                                                                                                                             CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SDKPKRKKKGGKNGKNRRNRKKKNPCNABFQNFCIHGECKYIBHLEAVTCKCQQEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SHISPVSEMPSSSEPSSGADYDYSBEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                  LRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                           CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SHISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ä
                                                                                                                                                                                                             (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                      protein;
                                                                                                                                                                               protein.
                                                                                                                                                                                                           .entry)
                                                                                                                                                                                                                                                                                                                                                252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           41pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cell cultures, useful for treating liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a composition comprising several cDNAs in a liver disorder. The composition is
                                                                                                                                                                                                                                                                          252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1308; DB 8;
Pred. No. 2.2e-113;
); Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             English.
                                                                                                ; placental growth amphiregulin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                several cDNAs that are composition is useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ٥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
 RESULT 5
ADL12853
ID ADL1
XX
AC ADL1
XX
DT 06-M
XX
DE Huma
XX
Hepa
                                                                                                                                                                                                밁
                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Hepatotropic; Gene therapy; Wilson disease; liver disorder;
                             Human steroid-induced C3A liver cell protein #92.
                                                            06-MAY-2004
                                                                                        ADL12853
                                                                                                                   ADL12853 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Morimoto A,
Walter SA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                252;
                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   μ.
```

(first

entry)

252

180

180

240 240

120

60

0

```
The invention relates to a novel method for determining whether a test compound inhibits tyrosine kinase activity in a mammal comprising measuring in the mammal the level of at least one of the proteins and/or manual transcripts or genes for such proteins comprising type 1 plasminoger activator inhibitor (PAI-1), TIMP-1 (tissue inhibitor of plasminoger (WEGF), placental growth factor (PAI), vascular endothelial growth factor (WEGF), placental growth factor (PAI), exposing the mammal to the test compound and then measuring in the mammal the level of at least one of the proteins and/or mRNA transcripts previously measured. The method of the proteins and/or mRNA transcripts previously measured. The method of the invention may be useful for determining whether a test compound inhibits tyrosine kinase activity in a mammal. The current sequence is that of the tyrosine kinase activity inhibition-related protein of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Determining whether a test compound inhibits tyrosine kinase activity a mammal by exposing the mammal to the test compound and measuring in mammal the level of at least one of the measured proteins or mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-MAY-2002; 2002US-0380872P
24-FEB-2003; 2003US-0448874P
24-FEB-2003; 2003US-0448922P
                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                transcripts.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19-MAY-2003; 2003WO-US015711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (SUGE-) SUGEN INC.
                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                             CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK
                                                                                                                                                                  SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                             MRAPLLEPAPVVLSLLILGSGHYAAGLDLANDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                    LRQENGNVHAIA
                                                                                                                                                                                                                   SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                      CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK
                                                                                                                                                                                                                                                         SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                              MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
LRQENGNVHAIA
                                                                                                                                               SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Deprimo s
Schilling
                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                           Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 oS,
γJW,
                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            51;
                                  252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          O'farrell A,
Cherrington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        408pp;
                                                                                                                                                                                                                                                                                                                                                                  <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                     Score 1308; DB 8; Pred. No. 2.2e-113;
                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Smolich J;
                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BD,
                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Manning
                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 plasminogen
                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          test
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of.
```

```
The inventibn relates to a combination comprising cDNAs that are differentially expressed in response to steroid treatment. Also included the following: a high throughput method for using a cDNA to detect throughput method of screening molecules or compounds to identify a classes and comparison of nucleic acids in a sample; and a high comparison of screening molecules or compounds to identify a classes. The high throughput method of screening molecules or compounds to identify a condentify a ligand that specifically binds a cDNA. The sample is from a subject with condentify a ligand that specifically binds a cDNA comprises; combining the combination with molecules or compounds are compounds specific binding; and detecting specific binding between each cDNA and at creating liver disorders associated with steroid therapy, e.g., cirrhosis sequence data for this patent did not form part of the printed consponded in steroid-induced cJA liver cells. Note: The at secondata.usonc.gov/sequence.html
                                                                                                                                                                                                                                                                                   Matches 252;
                                                                                                                                                                                                                                                                                                       Query Match
Best Local !
                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                    Loca]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; SEQ ID NO 582; 141pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Combination useful for preparing a composition for treating liver disorders associated with steroid therapy, e.g., cirrhosis or hepatitis, comprises cDNAs that are differentially expressed in response to steroid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2004-068610/07.
       241
                                  241
                                                             181
                                                                                        181
                                                                                                       121 SDKPKRKKKGGKNGKNRKNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Furness LM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-OCT-2000; 2000US-0240409P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-0CT-2001; 2001US-00976594.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US6673549-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 steroid therapy; cirrhosis; hepatitis; human; C3A liver cell.
                                                                                                                                                                          61
                                                                                                                                                                                                                  LRQENGNVHAIA
                  LRQENGNVHAIA
|||||||||
                             ČĠĖKŚMŔTHŚMIDŚŚLŚKIALAAIAAFMŚAVILTAVAVITVQLRRQYVRKYĖGĖAĖERKK 240
                                                 ŚDK PKRKKKŚ GKNGKNRKNRKKKNPCNA BPONFCI HGECKY I EHILEAVTCKĆO OBYPGER
                                                                                                                                                            . SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                        ŚŔĬŚPVŚEMPŚŚŚEPŚŚGADYDYŚEBYDNEPQIPĠYĪVDDŚVRVEQVVKPPQNKTEŚENT 120
                                                                                                                                                                                                 MRAPĹĹPPAPVVĹSĹĹĬĹĠŚĠĦŸAĀĠĹĎĹŇĎŤŸŚĠĸŔĔPPŚĠĎĦŚĀĎĠPĖVŤŚŔŚĖMŚŚĠ
                                                                                                                                                                                                                                                                                                                                        252 AA;
                                                                                                                                                                                                                                                                           100.0%;
ilarity 100.0%;
Conservative 0
                        252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JĽ;
                                                                                                                                                                                                                                                                           ,
,
                                                                                                                                                                                                                                                               Score 1308; DB 8;
Pred. No. 2.2e-113;
Mismatches 0;
                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                        Length
                                                                                      180
                                                                                                                 180
                                                                                                                                                                                                                               60
```

RESULT

Query Match Best Local Similarity Matches 252; Conserv

ilarity 100.0%; ; ; Conservative 0;

Score 1308; DB 8; Pred. No. 2.2e-113; Mismatches

Length

252; ۰,

Gaps

0,

Ş B Ś 밁 Ş 밁 Ś B Ş

```
The present invention describes a method of testing for bronchial asthma CC or chronic obstructive pulmonary disease. The method comprises from a subject, comparising the expression level of a marker gene in a biological sample comprises of the marker gene in a biological sample comparison level of the marker gene in a biological sample comprises of the marker gene in a biological sample from a healthy of the marker gene in a biological sample from a healthy control of the marker gene in a biological sample from a healthy genes (S1) whose expression levels increase when respiratory epithelial asthma or chronic colls are stimulated with interleukin-13, or (b) a group of the whose expression levels increase when respiratory epithelial cells are colls are stimulated with interleukin-13, or (b) a group of the stimulated with interleukin-13, or (b) a group of genes (S2) testing for bronchial asthma or chronic obstructive pulmonary disease; (c) a kit for screening for a candidate compound for a therapeutic agent (c) a maimal model for bronchial asthma or chronic obstructive pulmonary disease; (d) a minducer that induces bronchial asthma in a mouse; (s) constructive pulmonary disease; (d) a therapeutic agent constructive pulmonary disease; (d) a sthma or chronic obstructive pulmonary disease; (d) a marker gene or an antisense nucleic acid corresponding to a portion of the marker gene or an antisense nucleic acid corresponding to a portion of expression of the gene through an RNAi effect or an antibody recognising conscious base been immobilised to assay a marker gene. (I) has respiratory the marker gene immobilised to assay a marker gene. (I) has respiratory the method corresponding to a chronic obstructive pulmonary disease, on which a cid corresponding to a portion of correct of the sting for a chronic obstructive pulmonary disease, on which a cid acid corresponding to a portion of an antisating to a standard the strapper for a cid and acid correspiratior agent for and antisating to a standard the marker gene. (I) h
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Testing for bronchial asthma or chronic obstructive pulmonary disease becomparing the expression level of a marker gene in a biological sample from a subject with the expression level of the gene in a sample from a healthy subject.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2004-193155/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ohtani N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-AUG-2002; 2002JP-00229312.
20-MAR-2003; 2003JP-00077212.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GENO-) GENOX RES INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       04-AUG-2003; 2003EP-00254857.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bronchial asthma; chronic obstructive pulmonary disease;
respiratory epithelial cell; interleukin-13; respiratory; antiasthmatic;
gene therapy; marker.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Marker gene related amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-MAY-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADJ75567;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADJ75567 standard; protein; 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sugita Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 819; 241pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Yamaya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        acid sequence SEQ ID NO:819.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kubo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nagai H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Izuhara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
```

\*

```
RESULT 7
ADPO7715
ID ADPO
XX
AC ADPO
XX
AC ADPO
DT 12-J
XX
CYT
KW CYT
KW noo
KW obe
KW reig
KW reig
KW All
XX
AC
PN WC
XX
AC
PN PR 1
PR 1
PR 1
PR 1
PR PR 1
PR 1
PR PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                12-AUG-2002;
13-AUG-2002;
22-AUG-2002;
04-OCT-2002;
                                                                                                                                                                                                                                                                                                    Rosen
Birse
The invention preventing or
                                                                                                                                      New human secreted polypeptides and nucleic acid molecules for diagnosing, preventing or treating disorders associated with the secreted proteins, such as cancer, diabetes, obesity, cardiovascular disorders or
                                                                                                                                                                                                                                 N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cytostatic; antidiabetic; anorectic; gynaecological; antipsoriatic; dermatological; antiarteriosclerotic; antiasthmatic; neuroprotective; nootropic; antiparkinsonian; nephrotropic; human; secreted protein; diagnostic; pharmaceutical; cancer; lung; oesophageal; liver; diabete; obesity; metabolic disorder; cardiovascular disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12-JUN-2002;
08-AUG-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-MAY-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-MAY-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-MAY-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       reproductive disorder; psoriasis; eczema; bronchitis;
atherosclerosis; benign prostatic hyperplasia; asthma;
Alzheimer's disease; Parkinson's disease; renal disoro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human secreted protein, seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADP07715
                                                                     Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO2004042000-A2
                                                                                                                                                                                                                                                                                                                                                                         (HUMA-) HUMAN GENOME
                                                                                                                                                                                                                                   2004-400658/37.
DB; ADP07533.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                    g,ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           н
                                                                     SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SDKPKRKKKGGKNGKNRKNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MRAPLLPPAPVVLSLL1 LGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MRAPLLFPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUKPKRKKKGGKNGKNRKNRKKKNPCNASFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK
                                                                                                                                                                                                                                                                                                    Komatsoulis
                                                                                                                                                                                                                                                                                                                            Ruben
                                                                                                                                                                                                                                                                                                                                                                                                                ; 2002US-0381592P.

2002US-0388543P.

; 2002US-0401757P.

; 2002US-0402585P.

; 2002US-0402799P.

; 2002US-0404959P.

; 2002US-0415902P.
                                                                       ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2003WO-US015439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
  relates to a human treating disorders
                                                                       ö
                                                                                                                                                                                                                                                                                                                            SM,
                                                                     198; 1157pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein;
                                                                                                                                                                                                                                                                                                                                                                       SCI INC.
                                                                                                                                                                                                                                                                                                                       Olsen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           252
                                                                                                                                                                                                                                                                                                    ō
                                                                                                                                                                                                                                                                                                    Choi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       198
                                                                     English
                                                                                                                                                                                                                                                                                                    Baker KP,
GH, Moore
  secreted polypeptide associated with the s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              renal disorder
                                                                                                                                                                                                                                                                                                 Fiscella M, PA, Gupta
e for diagnosing, secreted proteins.
                                                                                                                                                                                                                                                                                                    æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cystic
                                                                                                                                                                                                                                                                                                    Wei P;
R, Shi Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fibrosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    diabetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
```

```
RESULT 8
ADR73587
ID ADR7
XX ADR7
XX ADR7
XX Wild
XX Anti
XX Anti
XX Anti
XX Home
OS Home
XX WO20
XX WO20
XX WO30
XX Home
XX Home
XX Home
XX WO21
XX WO21
XX WO21
XX WO21
XX WO21
XX WO31
XX WFI
XX WPI
XX WPI
XX WPI
XX New
PT PSO11
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The polypeptides and nucleic acid molecules of the invention are useful for preparing a diagnostic or pharmaceutical composition for diagnosing or treating a medical condition. These may be used for diagnosing preventing or treating disorders related to the human secreted proteins, such as cancer (e.g. lung, oesophageal or liver cancer), diabetes, obesity, metabolic disorders, cardiovascular disorders, reproductive disorders, psoriasis, eczema, bronchitis, cystic fibrosis, atherosclerosis, benign prostatic hyperplasia, asthma, Alzheimer's disease, Parkinson's disease or renal disorders. Sequences given in records for ADP07710-ADP07891 represent human secreted proteins of the
                                                                                                                                                                                                                                                                                                         Wild-type
                                                                                                                     07-FEB-2003;
30-DEC-2003;
                                                                                                                                                         06-FEB-2004; 2004WO-US004176
                                                                                                                                                                                                         WO2004068931-A2
                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                           human
                                                                                                                                                                                                                                                                     Antipsoriatic;
PAR34; PAR80; F
                                                                                                                                                                                                                                                                                                                                 04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                  ADR73587 standard;
                                                                      Landolfi NF,
                                                                                                                                                                                   19-AUG-2004.
                                                                                                                                                                                                                                                                                                                                                           ADR73587;
                                                                                                (PROT-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              al Similarity
252; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     _
                                                                                                PROTEIN DESIGN LABS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SDKPKRKKKGGKNGKNRKNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               252
                                                                                                                                                                                                                                                                                                                                                                                                                                               LRQENGNVHAIA
                                                                                                                                                                                                                                                                                                         full-length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; ilarity 100.0%; Conservative 0
                                                                                                                       2003US-0445640P.
2003US-0533901P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                     ; cytostatic; gene therapy; amphiregulin; AR; heparin; HuPAR34; chimeric; humanised; antibody; cancer; psori
                                                                       Tsurushita
                                                                                                                                                                                                                                                                                                                                                                                  protein;
                                                                                                                                                                                                                                                                                                         human AR polypeptide, seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       252
                                                                      'n
                                                                                                                                                                                                                                                                                                                                                                                   252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ç,
                                                                         Hinton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 1308;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                       PR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 8;
2.2e-113;
28 0;
                                                                         Kumar
                                                                       ŝ
                                                                                                                                                                                                                                                                                                          id
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                      psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

polypeptide, psoriasis.

New antibody that competitively inhibits binding of an amphiregulin polypeptide, useful for diagnosing or treating patients having cance

cancer

(AR)

```
RESULT 9
ADDR67228
AD C7228
AC ADR6
AC ADR6
AC ADR6
AX ADR6
AX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Herr A,
                                                                                                                                                                (HINZ/)
                                                                                                                                                                                                                               26-FEB-2003; 2003DE-01009729
                                                                                                                                                                                                                                                                    24-FEB-2004; 2004WO-DE000364.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                 (STAU/)
                                                                                                                                                                                                                                                                                                                      10-SEP-2004.
                                                                                                                                                                                                                                                                                                                                                         WO2004076613-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                 bladder cancer tissue; bladder cancer; cytostatic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human bladder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-DEC-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADR67228 standard; protein; 252 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to an antibody that competitively inhibits binding of an amphiregulin (AR) polypeptide to an antibody. Ar is a heparining binding glycoprotein. The antibody comprises a heavy chain variable region having ammo acid sequence of at least 60% identity to a sequence selected from ADR73588, ADR73590 and ADR73598, and a light chain variable region having amino acid sequence of at least 60% identity to a sequence selected from ADR73589, ADR73591 and ADR73590. The antibody binds to the same AR epitope as that bound by an antibody selected from PAR34, and is chimeric or humanised. The antibodies are useful for diagnosing or treating patients having cancer and psoriasis. The current sequence represents the wild-type full-length human AR polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 1;
                                                                                    DAHL
STAUB E.
PILARSKY C.
                                                                                                                                        HINZMANN B.
DAHL E.
STAUB E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                       HERR A.
                                                        Hinzmann B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEABERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ĊĠĒĸŚMŔŢĦŚMĪĎŚŚĹŚĸŤĀĹĀĀĨĀĀFMŚĀVĪĹŢĀVĀVĪŢŶŎĹŖŖŎŶVŖŔŶĔĠĔĀĒĔŖĸĸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LROENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SDKPKRKKKĠĠĸŃĠĸŃŔĸŃŔĸĸĸĸŶĊŃĂĔŦŎŃŦĊĬĦĠĠĊĸŶĬĠĦĹĠĂŶŦĊĸĊŎŎĔŶŦĠĔŔ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SDKPKRKKKGGKNGKNRNRKKKONPCNAEFONFCIHGECKYIEHLEAVTCKCOOEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SETSPVSEMBSSSEPSSGADYDYSEEYDNEDQIPGYIVDDSVRVEQVVXAPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEÍ SÞVSEMÞSSSEÞSSGÁÐYÐYSEEYÐNEÞÓÍ ÞGYÍ VDÐSVRVEQVVKÞÞÓNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MRÁPLLPPAÞVVLSLLILGSGHÝAAGLDLNDTÝSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                         cancer associated amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 1; 99pp; English.
                                                      Dah1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; E
100.0%; F
itive 0;
                                                    'n
                                               Staub
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1308; DB 8;
Pred. No. 2.2e-113;
Mismatches 0;
                                             'n
                                       Pilarsky C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                  Specht
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 252;
                                  H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
```

RESULT 10 AAG75109

AAG75109 standard; protein;

326

Å

```
Ş
                                                                                                                  문
                                                                                                                                         Ś
                                                                                                                                                                       밁
                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 252; Conserv
                                                                                                                                                                                                                                                                                                                               The present invention describes nucleic acids (I) associated with bladder cancer tissue. Also described: (I) peptides and proteins (II) containing an amino acid sequence encoded by (I); (2) a method for disgnosing or agents (2) that inhibit, or bind to, (I) or (II), labelled with a reporter; and (3) a method for treating BC that uses (I), (II) (II) and (II) have cytostatic activity. (I) and (II) can be used to detect developing it; to screen for specific binding agents (Z), and to treat BC. (Z) are also useful as diagnostic and therapeutic agents. The present sequence represents a human amino acid sequence associated with bladder cancer, which is used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 2; Fig 3; 112pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New nucleic acids, and encoded proteins, from bladder cancer tissue, useful for diagnosis, treatment and in screening for specific binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2004-653385/63.
      241
                241 LRQENGNVHAIA 252
                                    181 ČÓBKSMKTHSMÍÐSSLÍSKÍÁLÁÁÍAÁFMSÁVÍLTÁVÁVÍTVÓLRRÓYVRKYEGBÁEERKK
                                                                                    181
                                                                                                              121
                                                                                                                                         121
                                                                                                                                             61 ŚĖIŚPVŚEMPŚŚŚEPŚGADYDYŚEEYDNEPQIPGYIVDDŚVRVEQVVKPPQNKTEŚENT
                                                                                                                                                                                              61
                                                                                                                                                                                                                                                      ᆫ
                                                    CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVOLRRQYVRKYEGEABERKK 240
LRQENGNVHAIA 252
                                                                                                           SDK-PKRKKKGGKNGKNRKNRKKKKNPCNABFONFCIHGBCKYIBHLBAVTCKCQQBYFGBR
                                                                                                                                                                 SEISPVSEMPSSSEPSSGADYDYSESYDNEPQIPGYIVDDSVRVEQVVKDPQNKTESENT
                                                                                                                                                                                                                    MRĀPLLPPĀÞÝVLSLLILGSGHÝĀĀGLDLNDTÝSGKŔBPPSGDHSĀDGPEVTSRSEMSSG
                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                         100.0%; Score 1308; DB 8; 100.0%; Pred. No. 2.2e-113;
                                                                                                                                                                                                                                                                     ٥,
                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                    252;
                                                                                                                                                                                                                                                          °,
                                                                                                                                                                                                                                                      Gaps
                                    240
                                                                                       180
                                                                                                                 180
                                                                                                                                             120
                                                                                                                                                                       120
                                                                                                                                                                                                  60
                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                       0,
```

```
(HUMA-) HUMAN
                           29-SEP-1999;
03-NOV-1999;
                                                      28-SEP-2000; 2000WO-US026524.
                                                                                  05-APR-2001
                                                                                                       WO200122920-A2
GENOME SCI INC
                     99US-0157137P.
99US-0163280P.
```

Human; colon cancer; colon cancer colorectal carcinoma; chromosome

Cancer; colon cancer antigen; diagnosis; detection;

Human colon cancer antigen protein SEQ ID NO:5873.

03-SEP-2001

(first entry)

```
RESULT 11
AAP95447
                                                                                                                                                                                                                                                                                                                                                                                           ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conner-associated nucleic acid molecules (N) and proteins (P), where the CC proteins are collectively known as colon cancer antigens. The colon CC cancer antigens have cytostatic activity and can be used in gene therapy CC and vaccine production. N and P may be used in the prevention, diagnosis CC and treatment of diseases associated with inappropriate P expression. For CC example, N and P may be used to treat disorders associated with decreased CC expression by rectifying mutations or deletions in a patient's genome CC that affect the activity of P by expressing inactive proteins or to CC supplement the patients own production of P. Additionally, N may be used to produce the colon cancer-associated Ps, by inserting the nucleic acids into a host cell and culturing the cell to express the proteins. N and P CC can be used in the prevention, diagnosis and treatment of colorectal CC carcinomas and cancers. AAH37196 to AAH37204 and AAB77789 represent CC earcinomas and cancers. AAH37196 to AAH37204 and AAB77789 represent CC earcinomas and page 7053 of the sequence listing were missing at time of publication, meaning no sequences are present for SEQ ID NO:1027 CC time of publication, meaning no sequences are present for SEQ ID NO:1027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                              27-AUG-2003
25-MAR-2003
10-NOV-1989
Human MCF 7 breast carcinoma cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAH32943 to AAH37195 and AAG73514 to AAG77788 represent human cancer-associated nucleic acid molecules (N) and proteins (P).
                             Amphiregulin; growth regulator; neoplastic immune response; arachidonic acid cascade.
                                                                                                                                                                                                                 AAP95447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 11; Page 7390-7392; 9803pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nucleic acids encoding
                                                                             Amphiregulin
                                                                                                                                                                                                                                                                                                  315
                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                  255
                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                  195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001-235357/24.
)B; AAH34514.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    326
                                                                                                                                                                                                              standard;
                                                                                                                                                                                                                                                                                                                                                                                    CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SBISPVSEMPSSSEPSSGADYDYSEESPDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                              LROENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                 SUKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SHISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                               LROENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                             CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       preventing,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Barash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
llarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A
                                                                                                           (revised)
(revised)
(first en
                                                                             precursor protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SC,
                                                                                                                                                                                                              protein;
                                                                                                              entry)
                                                                                                                                                                                                                                                                                                  326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     y 4277 human
, diagnosing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Birse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 1308; DB 4;
Pred. No. 3.1e-113;
); Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          É
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     colon cancer-associated polypeptides, and/or treating colorectal cancers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rosen
                                              disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 326;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                              bone
                                             resorption;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 134
                                                                                                                                                                                                                                                                                                                                                                                                                                 254
```

RESULT 12 ADC71538 ID ADC71 XX ,

ADC71538

standard; protein;

235

₽

S 밁 á 밁 Ś 밁 á 밁 S

```
Matches 250;
                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                              This sequence represents the precursor form of amphiregulin (ARPP). The corresp. DNA sequence is spliced to remove introns. The sequence is also processed to produce mature amphiregulin (AR). The mature protein is expressed using recombinant DNA methods and can be glycosylated or nonglycosylated. Abs can be produced which recognise an epitope of AR. AR is bifunctional growth regulator which inhibits growth of some cancers but stimulates growth of some normal cells. It is useful in the treatment diagnosis and monitoring of neoplastic diseases, for treating wounds etc. See also AAP90472, AAP90443, AAP90450, AAP90453, AAP90453, AAP90454, AAP90472, AAP90453, AAP90454, AAP90374, AAP90375 and AAP90376. (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to correct PI field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Key
Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New growth regulating proteins designated amphiregulin - inhibiting tumours but stimulating some normal cells, also new precursor prote encoding nucleic acid sequences and antibodies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (ONCO )
                                                                                                                                                                                                                                                                                                                                           Sequence 252 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Shoyab
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-JAN-1988;
15-APR-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DE3902157-A.
                                                                                                                                                                                                                                                                                                                                                                     (Updated on 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                                                                                                                               Local
                                         181
          241
                                                                    181
                                                                                                   121
                                                                                                                             121
                                                                                                                                                            61
                                                                                                                                                                                        61
                                                                                                                                                                                                                     ш
                                                                                                                                                                                                                                      1 MRAPILPPAPVVLSILIIGSGHYAAGIDINDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ONCOGEN.
BRISTOL-MYERS
                                                                                                                                                                                                                                                                                            Similarity
LRQENGNVHAIA
                                                                                                                    SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                             SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                    CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEABERKK
                                                                                                                                                            SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPXNKTESENT
                                                                                                                                                                                                                       MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPPSGDHSADGFEVTSRSEHSSG
                                                                                                   SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mcdnald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fig 17;
                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           88US-00148327.
88US-00181884.
89US-00297816.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89DE-03902157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers 101. .171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label= amphiregulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Į,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               78pp;
                                                                                                                                                                                                                                                                                           99.0%;
            252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Plowman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  German.
                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                             Score 1295; DB 1;
Pred. No. 3.5e-112;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ģ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bradley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ď
                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein,
                                                                     240
                                                                                                                              180
                                                                                                                                                             120
                                                                                                                                                                                        120
                                         240
                                                                                                                                                                                                                     60
```

```
where X can be an integer of 1 to 7. The NOVX proteins designated NOVX, CC sequences have cytostatic, anorectic, antidiabetic, antiparkinsonian, CC neuroprotective, nootropic, immunomodulator, antiarteriosclerotic, comphrotropic and osteopathic activities, and can be used in vaccines and CC in gene therapy. The NOVX proteins can be used in manufacturing a CC disease selected from a pathology associated with a human disease, the CC disease can be cancer. NOVX proteins, nucleic acid molecules and CC disease can be used for diagnosting, treating or preventing other antibodies may also be used for diagnosting, treating or preventing other CC obssity, diabetes, metabolic disorders, anoraxia, neurodegenerative disorders, haematopoietic disorders, anthroxesia, neurodegenerative consisted and proteins may also be used in chromosome mapping, trissue typing, predictive medicine and pharmacogenomics. The present the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                        New NOVX polypeptides and nucleic acids for diagnosing, preventing treating NOVX-associated disorders, e.g. cancer, obesity, diabetes atherosclerosis, and for chromosome mapping, tissue typing or
                                                                                                                                                                                                                                                                                                                                        Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alsobrook JP, Anderson DW, Boldog FL, Burgess CE, Chant JS; Chapoval A, Chaudhuri A, Edinger SR, Eisen A, Gangolli EA; Gerlach VL, Guo X, Ji W, Khramtsov NV, Leite MW, Li L, Mezes PS; Millet I, Ooi CE, Ort T, Padigaru M, Patturajan M, Pena CEA; Rastelli L, Rieger DK, Quinn Senger KE, Smithson G, Spaderna SK; Spytek KA, Stone DJ, Twomlow N, Vernet CAM, Voss EZ, Zerhusen BD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-NOV-2001;
28-NOV-2001;
29-NOV-2001;
29-NOV-2001;
03-DEC-2001;
19-APR-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-MAY-2002;
07-AUG-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (CURA-) CURAGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-NOV-2002; 2002WO-US035535.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human; NOVX; cytostatic; anorectic; antidiabetic; antiparkinsonian; neuroprotective; nootropic; immunomodulator; antiarteriosclerotic; nephrotropic; osteopathic; vaccine; gene therapy; cancer; obesity; diabetes; metabolic disorder; anorexia; neurodegenerative disease; Parkinson's disease; Alzheimer's disease; immune disorder; haematopoietic disorder; atherosclerosis; renal failure; hyperkalaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO2003040329-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human NOV6a protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-DEC-2003
                                                                                                                                                                                                                                                                                                                    1; SEQ ID NO 166; 112pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                            2003-441554/41.
DB; ADC71537.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; 2001US-0338626P.
1; 2001US-00996015.
1; 2001US-0333912P.
1; 2001US-0334300P.
2; 2002US-0338196P.
2; 2002US-03381043P.
2; 2002US-0401593P.
2; 2002US-0401593P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disorder; wasting disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ID NO:166.
                                                                                                                                                                                                                                                                                                                                                                           or or
```

```
RESULT 13
ADN33949
                                                             05-NOV-2001; 2001US-0338626P.
28-NOV-2001; 2001US-00996015.
28-NOV-2001; 2001US-0333912P.
29-NOV-2001; 2001US-0334300P.
03-DEC-2001; 2001US-0334196P.
19-APR-2002; 2002US-0373806P.
16-MAY-2002; 2002US-03738043P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                      (ALSO/)
(ANDE/)
(BOLD/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 235
                                                                                                                                           04-NOV-2002;
                                                                                                                                                                              US2004038230-A1
                                                                                                                                                                                                                   Misc-difference
                                                                                                                                                                                                                                             Misc-difference
                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                       Homo
                                                                                                                                                                                                                                                                                                                  Alzheimer's disease; Parkinson's disease; immune disorder; haematopoietic disorder; dyslipidaemia; metabolic disturbance; metabolic syndrome X; wasting disorder; antibacterial agent; SNP;
                                                                                                                                                                                                                                                                                                                                            Human; NOVX; pancreatic polypeptide; angiopoietin; interleukin-1; endotepine; amphiregulin; metallocarboxypeptidase; metabolic disorder; diabetes; obseity; infectious disease; anorex; cancer; cancer-associated cachexia; neurodegenerative disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                         17-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                            ADN33949;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADN33949 standard; protein;
ALSOBROOK J P.
ANDERSON D W.
BOLDOG F L.
BURGESS C E.
CHANT J S.
                                                                                                                                                                                                                                                                                                   sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            235;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SĽSKÍ AĽAÁ Í AÁ FRISA VIĽTAVAVÍ TVOĽRRO ÝVŘKÝ EGEA EERKKLKOENGNVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KVŘŘNŘKKKŇPĆNÁŠFONFOTHGEČKYTEHĽEÁVTCKCOOEYFGERCGEKSMKTHSMTDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KURRNEKKKUPCNASFQNFCIHGECKYISHLSAVTCKCQQSYFGSERCGSKSMKTHSMIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2002US-0401593P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PŚŚGĀDYDYŚEEYDNEPOJPGYIVDDŚVRVEOVVKPPONKTEŚENTSDKPKRKKKGGKNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         īlītīgsghyaagīdīkidtysgkkeprsgdhsadgrevtsksemssgseispvsempssse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LLIIGSGHYAAGLDLNDTYSGKREFFSGDHSADGFEVTSRSEMSSGSEISFVSEMPSSSE
                                                                                                                                       2002US-00287190.
                                                                                                                                                                                                                                                                                                                                                                                                     protein NOV6a.
                                                                                                                                                                                                                                                                                                                                                                                                                       (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                 /note≈ "May be polymorphism" 124
                                                                                                                                                                                                                                               89
                                                                                                                                                                                              /note= "May be
polymorphism"
                                                                                                                                                                                                                                                    /note= "May be polymorphism"
                                                                                                                                                                                                                                                                        Location/Qualifiers
                                      ָּם
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93.7%; Jr.
100.0%; Pr.
                                                                                                                                                                                                     Gly
                                                                                                                                                                                                                               Gly as
                                                                                                                                                                                                                                                           Tyr as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 1226; DB 7; 1
Pred. No. 8.8e-106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         A
                                                                                                                                                                                                     86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                the
                                                                                                                                                                                                  the result
                                                                                                                                                                                                                                                        the result of
                                                                                                                                                                                                                              result of a
                                                                                                                                                                                                 of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                    a single nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 235;
                                                                                                                                                                                              single nucleotide
                                                                                                                                                                                                                         single nucleotide
                                                                                                                                                                                                                                                                                                                                                       anorexia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       134
```

(CHAP/) (CHAU/) (EDIN/) (EISE/)

EISEN A. EDINGER S R. CHAUDHURI CHAPOVAL A. (ن<sup>ې</sup>

```
The invention relates to 87 isolated NOVX polypeptides (NOVI-NOV5), their CC mature forms and their encoding polymucleotides having sequence continuation of the pancreatic polypeptide (NOVI), angiopoietin (NOV2), conterleukin-1 (NOV3), endothelin-2 (NOV4), endozepine (NOV2), conterleukin-1 (NOV6) and metallocarboxypeptidase (NOV7). Also included the cuse of NOVX in the manufacture of a medicament for treating a human conditions that service the conterleukin of the NOVX polypeptide, condulating the activity of NOVX, detecting NOVX in a sample via an included the condulating the activity of NOVX, a vector comprising NOVX polypeptide, condulating the vector, an antibody that immunospecifically binds to NOVX, detecting the polymucleotide in a sample using a hybridisation cases; and producing the polypeptide comprising culturing the cell under conditions that lead to expression of the polypeptide. NOVX and its conditions that lead to expression of the polypeptide. NOVX and its conditions that lead to the aberrant expression and activity of NOVX. CC polypeptides e.g. metabolic disorders, diabetes, obesity, infectious conditions that lead to the aberrant expression and activity of NOVX. CC disease, anorexia, cancer, cancer-associated cachexia, neurodegenerative cd disorders, Alzheimer's disease, Parkinson's disease, immune disorders, and the various dyslipidaemias, metabolic conditions that bear associated with obesity, the metabolic syndrome x and conditions that bear associated with chronic disease and various cancers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alsobrook dp. Anderson DW, Boldog FL, Burgess CE, Chant JS; Chapoval A, Chaudhuri A, Edinger SR, Bisen A, Gangolli EA; Gerlach V, Guo XS, Ji W, Khramtsov Leite MW, Li L, Mer Millet I, Ooi CE, Ort T, Padigaru M, Patturajan M, Pena CE; Rastelli L, Rieger DK, Senger KEQ, Smithson G, Spaderna SK; Spytek KA, Stone DJ, Twomlow N, Vernet CAM, Voss EZ, Zerhu
                                               They may also be used as antibacterial agents. NOVX may also be used an antigen in the production of antibodies and in assays to identify modulators (agonists and antagonists) of the expression and activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             diagnosing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (VERN/)
(VOSS/)
(ZERH/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (SPAD/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MEZE/)
(MILL/)
(OOIC/)
(ORTT/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Isolated NOVX polypeptides and nucleic acids, useful for preventing, diagnosing and treating e.g. cancer, diabetes and Alzheimer's diseas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (STON/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (SENG/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (RAST/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (JIWW/)
(KHRA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (IIMS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (PATT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (PADI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (/NOHZ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (PENA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LI L.
) MEZES P S.
// MILLET I.
2/) OOI C B.
The second of the second of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2004-213932/20.
DB; ADN33948.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PADIGARU M.
PATTURAJAN M.
PENA C E A
RASTELLI L.
RIÈGER D K.
SENGER K E Q.
SMITHSON G.
SPADERNA S K.
SPYTEK K A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TWOMLOW N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GANGOLLI E A GERLACH V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZHONG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GUO X S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZERHUSEN B D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LEITE M W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KHRAMTSOV N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 166; 129pp; English
                       present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Z A M
                       sequence represents
                          ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Burgess CE, Chant JS;
Eisen A, Gangolli EA;
, Leite MW, Li L, Mezer
Patturajan M, Pena CEA;
                       protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zerhusen
```

disease

ဇ္ as

S

27 LDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSGSEISPVSEMPSSSEPSSGADYDYSEE

86

Indels

Matches

Conservative

```
RESULT 14
ANAT/3157
ID AAW73
XX AMPhi
XX IS-JP
PR 15-JP
PR 25-JP
PR 15-JP
P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SS
                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                             This sequence represents the human amphiregulin (AR) transmembrane glycoprotein of the invention. The invention also relates to rat, mous and bovine AR proteins. The AR proteins can be used to stimulate epithelial cell growth. They may be of therapeutic use in controlling tumour cell growth and in disorders such as psoriasis, and can be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                Sequence
                                                                                                                                               a tumour
                                                                                                                                                                                                                                                                                                     Claim 11;
                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1998-609313/51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-APR-1988;
17-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US5830995-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human amphiregulin transmembrane glycoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW73157 standard;
                                                                                                                                                                                                                                                                                                                                                                     Amphiregulin proteins -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plowman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-JAN-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-MAY-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Amphiregulin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAW73157;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (BRIM )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   235;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                θ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BRISTOL-MYERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSGSEISPVSEMPSSSE
                                                                                                                                            marker for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            235
                                                                                                  226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKKLRQENGNVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSGSEISPVSEMPSSSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKKLRQENGNVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNG
                                                                                                                                                                                                                                                                                                   Col 71-72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                  AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bradley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AR protein;
mour marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88US-00148327.
88US-00181884.
89US-00297816.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92US-00885089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein;
90.0%; UT
100.0%; Pr
                                                                                                                                          cancer diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
                                                                                                                                                                                                                                                                                                   76pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SQUIBB
                                                                                                                                                                                                                                                                                                                                                                       useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              epithelial cell growth; cancer diagnosis; therap
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Shoyab
    Score 1177; DB 2; Le
b; Pred. No. 3.1e-101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 1226; DB 8;
Pred. No. 8.8e-106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                       for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Z,
                                                                                                                                                                                                                                                                                                                                                                     stimulating e.g. epithelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mcdonald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rowth; tumour cell growth;
therapy; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  235;
                                                                                                                                                                      be used
                                                                                                                                                                                                                                                                                                                                                                         cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               249
                                                                                                                                                                                                                                      mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                      as
```

Mezes

Sa

```
RESULT 15
AAW73160
ID AAW73173
AC AAW73173
AC AAW731
AC AAW71
AC AAW731
AC A
                                      용
                                                                                Ś
                                                                                                                                 Ď,
                                                                                                                                                                        8
                                                                                                                                                                                             Query Match
76.8%; Score 1004.5; DB 2; Length
Best Local Similarity 77.5%; Pred. No. 4.3e-85;
Matches 196; Conservative 19; Mismatches 31; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                               This sequence represents the bovine amphiregulin (AR) of the invention. The invention also relates to rat, mouse and human AR proteins. The AR proteins can be used to stimulate epithelial cell growth. They may be of the at the rapeutic use in controlling tumour cell growth and in disorders such as psoriasis, and can be used as a tumour marker for cancer diagnosis
                                                                                                                                                                                                                                                                                                                  Sequence 247 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-JAN-1988;
15-APR-1988;
17-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example; Fig la; 76pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Amphiregulih proteins - useful for stimulating e.g. epithelial cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1998-609313/51.
N-PSDB; AAV59098.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Plowman GD, Bradley JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (BRIM ) BRISTOL-MYERS SQUIBB CO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18-MAY-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-NOV-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US5830995-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bos sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Amphiregulin; AR protein; epithelial cell growth; tumour cell growth; psoriasis; tumour marker; cancer diagnosis; therapy; cow.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bovine amphiregulin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-JAN-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW73160;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW73160 standard; protein; 247
61 ŚĖTPĖGGĖL-----ŚŚVTÓYDYAŁEYDNEPQISGYIVDÓŚVRVEQVVKPKKNKTEŚEKT
                            61 SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         147 NABFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIALAAIAA 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FWSAVÍLTAVAVÍTVOLKROYVRKÝBGBABBKKKLKOBNGNVHAÍA 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FMSAVILTAVAVITVQLRRQYVRKYEGEAEERKKLRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAEFONFCIHGECKYIEHLEAVICKCOOEYFGERCGEKSMKTHSMIDSSLSKIALAAIAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  88US-00148327.
88US-00181884.
89US-00297816.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92US-00885089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shoyab M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mcdonald VL;
                                                                                                                                                                                                                                            1 247;
                                                                                                                                                                                             7;
                                                                                                                                                                                        Gaps
  114
                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
```

ф	Q	дb	γ	В	γQ
235 KLRQENGNAHAVA 247	240 KLROENGNVHAIA 252	175 CGEKSMKTQSMVDSDLSKIALAAIAAFVSAMTETAIAVFTTIJDDDG GCVGGTTIJJJJ	181 CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAV-TTVOI BBOVYTTVYTTTVOI	115 SDKPKKKKKGGKNGKNRNRKKKNILCDTEFQNFCIHGKCTFLEQLETVSCOCYDEYFGRR 174	121 SDKPKRKKKGGKNGKNRRNRKKKONPCNAEFQNFCIHGECKYIEHLEAVTCKCOOEVEGEE 16
				_	

Search completed: February 26, 2005, 16:41:14 Job time : 167 secs

```
Regult
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                    Score
                                                                                                                                     1308
1308
1308
1308
1308
1308
1226
100.0
100.0
100.0
100.0
100.0
100.0
100.0
23.7
24.5
22.9
22.9
21.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-774-076-1
1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          February 26, 2005, 16:41:22 ; Search time 134 Seconds (without alignments) 616.920 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1385339 seqs, 328044528 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MRAPLIPPAPVVLSLIILGS......GEAEERKKLRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Published Applications AA:*

1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10D_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10D_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10D_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10D_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10D_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          _6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                         멂
                   US-09-919-039-228
US-10-1177-293-13
US-10-301-822-8
US-10-440-464-51
US-10-106-698-5883
US-10-287-190-166
US-10-022-609-16
US-10-022-609-16
US-10-021-945-11
US-10-096-241-18
                                                                                                                                                                                                                                                                             US-09-974-298-2
                                                                                                                                                                                                                                                                                                                         H
                                                                                                                                                                                                                                                                                                                                                                                           SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1385339
              Sequence 2, Appli
Sequence 228, App
Sequence 13, Appl
Sequence 8, Appli
Sequence 51, Appl
Sequence 56, App
Sequence 166, Appl
Sequence 16, Appl
Sequence 16, Appl
Sequence 11, Appl
Sequence 11, Appl
Sequence 14, Appl
Sequence 14, Appl
Sequence 14, Appl
Sequence 16, Appl
Sequence 11, Appl
Sequence 11, Appl
Sequence 11, Appl
                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                                                                                           Sequence 2,
```

263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 264 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 308 21.5 16.2 308 21.5 16.2 308 21.5 16.2 30			
263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 17.7 46 211.5 16.2 208 21.5 11.1 336 21.5 16.2 208 21.5 11.1 336	5 5 5 5 5 3 mo	C	
263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 262 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 211.5 16.2 208 208 211.5 16.2 208 208 211.5 16.2 208 208 211.5 16.2 208 208 211.5 16.2 208 208 211.5 16.2 208 208 211.5 16.2 208 208 211.5 16.2 208 208 211.5 16.2 208 208 211.5 16.2 208 208 208 208 208 208 208 208 208 208	est L atche	26 27 28 29 29 30 30 31 31 31 31 31 32 33 33 34 41 42 42 42 43 43 43 43 44 45 45 45 47 47 47 47 47 47 47 47 47 47 47 47 47	115 116 116 117 118 119 220 221 221 222 23
263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 263 20.1 45 20.8 11.7 46 20.8 11.5 16.2 208 1.5 16.	B Cat	18 18 18 18 18 18 18 18 18 18 18 18 18 1	22222222
20.1 45 20.1 45 20.1 45 20.1 45 20.1 45 20.1 45 20.1 45 20.1 45 20.8 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.2 208 16.3 36 11.1 336 11.1 336 11.1 336 11.1 336 11.1 336 11.1 336 11.1 336 11.1 336 11.1 336 11.1 336 11.1 336 11.1 337 11.1 34	ω ω—ω <b>χ</b> — <b>χ</b> ν κ.	11.5 4.5 166 166 166 166 166 166 166 166 166 16	11111112263
11 45 12 208 12 208 12 208 12 208 12 208 12 208 12 208 12 208 12 208 13 36 11 337 77 77 77 77 77 77 77 77 77 77 77 11 347	COI APLI APLI APLI IISPI	156 167 179 188 188 199 199 199 199 199 199 199 19	1166 1166 1166 1166 1166 1166 1166 116
208 1 208 2	rity nser ppal       PPAI  /SEMI	77.77.77.77.77.77.77.77.77.77.77.77.77.	
G H-B C-C 4000 F 40: 0BP S1: 1 S 777777766666666697888888888888888888888	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	20 20 20 20 20 20 20 20 20 20 20 20 20 2	00000000000000000000000000000000000000
	SLL: SLL: SLL: SLL: SLL: SLL: SEPS: SEPS:	6 PO 1 PR PO 17777766666666666666666666666666666666	
THE CONTROL OF THE CO	O%; O%; ILGS ILGS ILGS ILGS ILGS ILGS ILGS ILGS	17 US 8 US: 8 US: 14 US: 14 US: 14 US: 14 US: 14 US: 9 US: 9 US: 9 US: 9 US: 9 US: 13 US: 9 US: 14 US: 14 US: 14 US: 14 US: 15 US: 16 US: 17 US: 18 US: 18 US: 19 US: 10 US: 11 US: 12 US: 13 US: 14 US: 16 US: 17 US: 18 US:	W4044440CL
13 US-10-136-573A-14 US-10-215-862-1 14 US-10-240-411-1 14 US-10-136-573A-1 14 US-10-136-573A-1 14 US-10-136-158-1 14 US-10-138-158-1 14 US-10-189-360-7 14 US-10-189-360-7 15 US-10-868-577A-1 17 US-10-868-577A-1 18 US-10-189-360-8 14 US-10-189-360-8 14 US-10-189-360-8 14 US-10-189-360-8 14 US-10-189-360-8 14 US-10-189-360-8 14 US-10-12-896-9 14 US-10-12-896-9 15 US-09-822-827-93-9 16 US-09-822-827-93-9 17 US-09-822-827-93-9 18 US-09-895-814-59 18 US-09-895-814-59 18 US-09-895-814-59 18 US-10-144-678A-1 19 US-09-895-814-59 13 US-10-144-678A-1 14 US-10-144-678A-1 14 US-10-144-678A-1 15 US/09/974,298 16 US/09/974,298 17 US-09-895-814-59 18 US-09-895-814-59 19 US-09-895-814-59 10 US-10-144-678A-1 10 US-10-144-678A-1 14 US-10-144-678A-1 15 US/09/974,298 11 US/09/974,298 11 US/09/974,298 11 US/09/974,298 11 US/09/974,298 11 US/09/974,298 11 US-10-144-678A-1 14 US-10-144-678A-1 15 US/09/974,298 16 US/09/974,298 17 US/09/974,298 18 US/09/974,298 19 US-09-895-814-59 19 US-09-895-814-59 10 US-10-144-678A-1 14 US-10-144-678A-1 15 US/09/974,298 16 US/09/974,298 17 US/09/974,298 18 US/09/974,298 19 US-09-895-814-59 19 US-09-895-814-59 10 US-10-144-678A-1 10 US-	SCHY SCHY SCHY SCHY SCHY SCHY SCHY SCHY		- S. C.
CRU P C C C C C C C C C C C C C C C C C C	Mis Mis	C     3     Q     D     H     1100000000000000000000000000000000000	100-
S-10-136-573A-1   S-10-215-862-10   S-10-215-862-10   S-10-240-421-13   S-10-096-327-2   S-10-10-189-360-5   S-10-189-360-5   S-10-189-360-5   S-10-189-360-5   S-10-189-360-8   S-10-189-360-9   S-10-19-19-19-940-940-940-9-895-193-940-9-895-193-940-9-895-193-940-9-895-193-9-940-9-9-895-193-9-940-9-9-895-193-9-940-9-9-895-193-9-940-9-9-895-193-9-940-9-9-895-193-9-940-9-9-895-193-9-940-9-895-193-9-940-9-895-193-9-940-9-9-895-193-9-940-9-895-193-9-940-9-895-193-9-9-9-9-895-193-9-9-9-9-9-895-193-9-9-9-9-895-193-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9	NAE WAE	0	777- 1368 1389 1389 1489 1589 1688
EF QUEEN ST T S S S S S S S S S S S S S S S S S	EPQ	0 R R87861819860-159	1 1 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3
	.9e s	\(\cdot\) \(\cdo	3A-10 3A-10 1-11-11-11-11-11-11-11-11-11-11-11-11-1
33-10 33-10	-111 -111 -111 -111 -111 -111 -111 -11	51 590 590 590 590	146
Sequence 10, -862-10 Sequence 10, -873A-10 Sequence 10, Sequence 2, A -360-5 Sequence 2, Sequence 7, Sequence 7, Sequence 7, Sequence 7, Sequence 2, A -540-2 Sequence 2, Sequence 30, Sequence 46, Sequence 940, Sequence 590, Sequence	pfsc 	GBR.	
7823 Tehrs	EHI	<b>78</b> 23	
See	Ple SADG SADG SADG SADG SADG	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Ω Φ Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω Ω
77	252 JFEN JFEN JFEN JFEN JFEN		1
sequence seq	CCOC		Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence
Sequence 10. Sequence 10. Sequence 10. Sequence 10. Sequence 10. Sequence 11. Sequence 21. Sequence 22. Sequence 23. Sequence 24. Seque	GEAN CA	1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	
G E — E S —	ENT ENT ENT GER		
Appl Appl Appl Appl Appl Appl Appl Appl	60 60 12 13	App	ppl Appl Appl Appl Appli Appli Appli Appli Appli

Ś 밁 Ś

```
RESULT 3
US-10-177-293-13
Sequence 13, Application US/10177293
Sequence 13. Application US/10177293
Publication No. US20030124128A1
APPLICANT: Lillie, James
APPLICANT: Glatt, Karen
APPLICANT: Zhao, Xumei
APPLICANT: Zhao, Xumei
APPLICANT: Kamatkar, Shubhangi
APPLICANT: Martens, Maureen
APPLICANT: Mertens, Maureen
APPLICANT: Mertens, Maureen
APPLICANT: Myer, Vic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: misc feature
OTHER INFORMATION: Incyte ID No. US20030108871A1 3478236CD1
US-09-919-039-228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 252; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: KABLAWI, TITLE OF INVENTION: GENES EXPRESSED IN TREATED HUMAN C3A LIVER CELL CULTURES FILE REFERENCE: PA-0035 US CURRENT APPLICATION NUMBER: US/09/919,039
PRIOR APPLICATION NUMBER: 00/22-09-09
PRIOR APPLICATION NUMBER: 60/222,113
PRIOR FILING DATE: 2000-07-28
SOFTWARE: PERL PROGRAM
SOFTWARE: PERL PROGram
LENGTH: 252
TYPE: PRI
SPANTE: 252
TYPE: PRI
SPANTE: PERL PROGRAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 228, Applic Publication No. US20 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -09-919-039-228
                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                               LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                       LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                              ĊĠĔĸŚŊĸŦĤŚŊĨĎŚŚĹĠĸĬĀĹĀĀĨĀĀFŊŚĀVĨĹŦĀVĀVĪŦŶŎĹŖŖŎŶVŖĸŶĔĠĔĀĔĔĸĸĸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SDKPKRKKKGGKNGKNGRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYPGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SBISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEÍSPVSEMPSSSEPSSGADYDYSEEYDNEPGIPGYÍVDDSVRVEGVVKPPGNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MRĀPLLPPĀPVVLSLLILGSGHYĀĀGLDLNDTYSGKRĒPPSGDHSĀDGPĒVTSRSĒMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĊĠĒĶŚŃĸŦĤŚŊĬĎŚŚĹĠĸĬĀĹĀĀĬĀĀĒŅŚĀVĬĹŦĀVĀVĬŦŶŎĹŖŖŎŶVŖĸŶĔĠĒĀĔĒŖĸĸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
ilarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/09919039
5. US20030108871A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 1308; DB 10; Length Pred. No. 2.9e-110; , Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
Sequence 8, Application US/10301822
Publication No. US20030148410A1
GENERAL INFORMATION:
APPLICANT: Millennium Pharmaceuticals, In
APPLICANT: Millennium Pharmaceuticals, In
APPLICANT: Berger, Allison
APPLICANT: Guillemette, Tracy L.
APPLICANT: Kamatkar, Shubhangi
APPLICANT: Kamatkar, Shubhangi
APPLICANT: Monahan, John E.
APPLICANT: Monahan, John E.
APPLICANT: Thibodeau, Stephen N.
APPLICANT: Burgart, Lawrence J.
                                                                                                                                                                                                                                              RESULT 4
US-10-301-822-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOPTWARE: FastSEQ for William SEQ ID NO 13
LENGTH: 252
TYPE: PRT
ORGANISM: Homo sapiens
US-10-177-293-13
                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: METIC, Fulds

APPLICANT: MILLS, AND SEGUL

APPLICANT: MILLS, GORDON B.

TITLE OF INVENTION: COMPOSITIONS, KITS, AND FILE REFERENCE: MRI-038

CURRENT APPLICATION NUMBER: US/10/177,293

PRIOR APPLICATION NUMBER: US 60/299,887

PRIOR FILING DATE: 2001-06-21

PRIOR APPLICATION NUMBER: US 60/301,572

PRIOR FILING DATE: 2001-06-27

PRIOR APPLICATION NUMBER: US 60/306,501

PRIOR PRIOR PRILING DATE: 2001-09-25

PRIOR APPLICATION NUMBER: US 60/325,002

PRIOR FILING DATE: 2001-09-25

PRIOR APPLICATION NUMBER: US 60/362,585

PRIOR APPLICATION NUMBER: US 60/362,585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 252; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                          241 LROENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                   241 LRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 SDKPKRKKKOGKNGKNRNRKKKOPCNAEFONFCIHGECKYIEHLEAVTCKCOOEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVOLRROYVRKYEGEAEERKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                SDKPKRKKKĠĠKŃĠKNŔŔŃŔKKKŃPĊŃĂĠFQŃŶĊŹĦĠĠĊĸŶĬĠĦĹĠĂŶŦĊĸĊQQĠŶŖĠĠŔ
                                                                                                                                                                                                                                                                                                                                                                                CGEKSMKTHSMIDSSISKIĀLĀĀIĀĀFMSĀVILTĀVĀVITVOLRROVVRKVEGEĀBERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEÍSPVSEMPSSSEPSSGADYDYSEEYDNEPQÍPGYÍVDDSVRVEGVVKPPGNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MRAPLLPPAÞÝVLSLLILGSGHYAAGLDLNDTYSGKRÉPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hoersch, Sebastian
Monahan, John
Meyers, Rachel E.
Bast Jr., Robert C.
Hortobagyi, Gabriel N
Pustai, Lajos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Xu, Yongyao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                          252
                                                                                                                                                                                                                                                                                                                                                            252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 1308; DB 14; 100.0%; Pred. No. 2.9e-110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPOSITIONS, KITS, AND METHODS FOR IDENTIFICATION, PREVENTION, AND THERAPY OF BREAST CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 14; Length 252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
```

<u>,</u>

Gaps

60 60

240 180

Ś B Ş В á В Ś В Ś

Page

ASSESSMENT,

```
APPLICANT: CHERRINGTON, JULIE
APPLICANT: SCHILLING, JIM
ITTE OF INVENTION: NOVEL BIOMARKERS OF TYROSINE KINASE INHIBITOR EXPOSURE
ITILE OF INVENTION: AND ACTIVITY IN MAMMALS
ITILE OF INVENTION: AND ACTIVITY IN MAMMALS
CURRENT APPLICATION NUMBER: US/10/440,464
CURRENT APPLICATION NUMBER: 60/380,872
PRIOR APPLICATION NUMBER: 60/380,872
PRIOR APPLICATION NUMBER: 60/448,922
PRIOR APPLICATION NUMBER: 60/448,922
PRIOR APPLICATION NUMBER: 60/448,922
PRIOR APPLICATION NUMBER: 60/448,974
PRIOR APPLICATION NUMBER: 60/448,874
PRIOR APPLICATION NUMBER: 60/448,874
PRIOR ETLING DATE: 2003-02-24
INUMBER OF SEQ ID NOS: 185
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 5:
LENGTH: 252
                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: DEPRIMO, SAMUEL
APPLICANT: O'FARRELL, ANNE-MARIE
APPLICANT: MORIMOTO, ALYSSA
APPLICANT: SMOLICH, BEVERLY
APPLICANT: MANNING, WILLIAM
APPLICANT: MANNING, WILLIAM
MALTER, SARAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 5
US-10-440-464-51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: PRT ; ORGANISM: Homo Sapiens US-10-301-822-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILE REFERENCE: MPM01-029P2RNM
CURRENT APPLICATION NUMBER: US/10/301,822
CURRENT FILING DATE: 2002-11-21
PRIOR APPLICATION NUMBER: US 60/339,971
PRIOR PILING DATE: 2001-12-10
PRIOR APPLICATION NUMBER: US 60/361,978
PRIOR APPLICATION NUMBER: US 60/361,978
PRIOR FILING DATE: 2002-03-05
PRIOR APPLICATION NUMBER: US 60/381,988
PRIOR FILING DATE: 2002-05-20
NUMBER OF SEQ ID NOS: 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 51, Application US/104
Publication Nd. US20040018528A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 252; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 8
LENGTH: 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND TITLE OF INVENTION: METHODS FOR IDENTIFICATION, ASSESSMENT, PREVENTION, TITLE OF INVENTION: THERAPY OF COLON CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MRAPILPPAPVVLSILIIGSGHYAAGIDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SDKPKRKKKGGKNGKNRKNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SHISPVEMPSSSEPSSGADYDYSEEYDMEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LROENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SDKPKRKKKGGKNGKNRRNRKKKNPCNABFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SHISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/10440464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1308; DB 14;
Pred. No. 2.9e-110;
D; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
```

```
á
                                                                       밁
                                                                                                          S
                                                                                                                                                                                ð
                                                                                                                                                                                                                       밁
맑
                                                                                                                                               밁
                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Homo sapiens
US-10-106-698-5883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 6
US-10-106-698-5883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-440-464-51
                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 8564
SOPTWARE: PatentIn Ver. 3.0
SEQ ID NO 5883
LENGTH: 326
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Publication No. US20 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 5883, Application US/10106698 Publication No. US20030109690A1
                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Ruben et al.

TITLE OF INVENTION: Colon and Colon Cancer Associated Polynucleotides and Polypeptide FILE REFERENCE: PA005P1
CURRENT APPLICATION NUMBER: US/10/106,698
CURRENT FILING DATE: 2002-03-27
PRIOR APPLICATION NUMBER: PCT/US00/26524
PRIOR FILING DATE: 2000-09-28
PRIOR FILING DATE: 1909-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR APPLICATION NUMBER: US 60/163,280
PRIOR PRILING DATE: 1999-11-03
PRIOR FILING DATE: 1999-11-03
                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                   Local
                                    181
                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK 240
                                                                                                                                               135 SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                 252;
                                                                                                                                                                                  61
                                                                                                                                                                                                                       75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MRAPILIPPAPVVLSILIIGSGHYAAGIDINDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                     Similarity
                   CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK
                                                                                             SDKPKRKKKGGKNGKNRKNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                       SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                       MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                             MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                       SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK
                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                           100.0%; Score 1308; DB 14; 100.0%; Pred. No. 4.1e-110; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 1308; DB 15; 100.0%; Pred. No. 2.9e-110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                      326;
                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                   240
                                                                                                            180
                                                                                                                                               194
                                                                                                                                                                                  120
                                                                                                                                                                                                                       134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                       254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
```

Ş

```
RESULT 8
US-10-022-609-15
VS-10-022-609-15
Sequence 15, Application US/10022609
Publication No. US20030023035A1
GENERAL INFORMATION:
Vandlen, Richard L
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-287-190-166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/10/287,190
CURRENT FILING DATE: 2003-04-02
PRIOR APPLICATION NUMBER: 09/996,015
PRIOR FILING DATE: 2001-11-28
PRIOR PILING DATE: 2001-11-05
PRIOR PILING DATE: 2001-11-05
PRIOR PILING DATE: 2001-11-05
PRIOR PILING DATE: 2002-04-19
PRIOR APPLICATION NUMBER: 60/373806
PRIOR FILING DATE: 2002-04-19
PRIOR APPLICATION NUMBER: 60/338196
PRIOR APPLICATION NUMBER: 60/338196
PRIOR PILING DATE: 2001-12-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: CuraSeqList version 0.1
SEQ ID NO 166
LENGTH: 235
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-287-190-166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR FILING DATE: 2002-08-07
PRIOR APPLICATION NUMBER: 60/334300
PRIOR FILING DATE: 2001-11-29
NUMBER OF SEQ ID NOS: 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 60/381043
PRIOR FILING DATE: 2002-05-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/333912
PRIOR FILING DATE: 2001-11-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Alsobrook II, John P. et al.
TITLE OF INVENTION: THERAPEUTIC POLYPEPTIDES, NUCLEIC ACIDS ENCODING SAME, AND METHOL
FILE REFERENCE: 21402-780B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENERAL INFORMATION:
                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
                                                                                                                TITLE OF INVENTION: Structure, F
                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity es 235; Conserv
                                                                                                                                                   APPLICANT: Vandlen, Richard L. Holmes, William E.
                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                     195
                                                                                                                                                                                                                                                                                                                                                                                 135 KORRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDS 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
FILING DATE: 2002-0
                                                                                                                                                                                                                                                                                                                                                                                                                          61 PSŚGADYDYŚEBYDNEPCIPGYIVDDSVRVEOVVKPPONKTEŚENTSDKPKRKKKGGKNG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15
                                                                                                                                                                                                                                                                                              SĹSKÍAĹÁÁÍÁÁFŃSÁVÍĹTÁVÁVÍTVOĹŔŔŎÝVŔKÝEGEÁEERKKLROENGNVH
                                                                                                                                                                                                                                                                                                                    SISKIALAAIAAFMSAVILTAVAVITVOLRRQYVRKYEGEAEERKKLRQENGNVH 249
                                                                                                                                                                                                                                                                                                                                                           KNRKNŔKKKŃPĊŃABPONPĊĬĤĠĖĊKŶĬĔĤĹĔÁVŤĊKĆŎŎĔŶPĠĔŖĊĠĔKĠŊKTHSNĨĎS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241 LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          315
                                                                                                                                                                                                                                                                                                                                                                                                                                                  PS$GADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ĹĹĬĹĠŚĠĦŸĀĀĠĹĎĹŃĎŤŸŚĠKŔĖPFŚĠĎĦŚĀĎĠŗĖVŤŚŔŚĖŃŚŚĠŚĖĬŚPVŚĖMPŚŚŚĖ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSGSEISPVSEMPSSSE 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LRQENGNVHAIA 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Application US/10287190
o. US20040038230A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93.7%; 50
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1226; DB 15;
Pred. No. 7.3e-103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                             Production and Use of
                                                                                                                  Ligands
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 235;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                           US-10-022-609-16

Sequence 16, Application US/10022609

Publication No. US20030023035A1
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                     RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-022-609-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 415/952-9881
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 87 amino acids
TYPE: amino acids
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSE: Genentech, Inc.
STREET: 460 Point San Bruno
CITY: South San Francisco
CTATE: California
CONTRY: USA
ZIP: 94080

COMPUTER READABLE FORM:

MEDIUM TYPE: 5.25 inch, 360 Kb f

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: patin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Lee, Wendy M.
REGISTRATION NUMBER: 00,000
REFERENCE/DOCKET NUMBER: 712C:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-1994
                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                 HOIMES, ..... FITTLE OF INVENTION: Structure, F
                                                                                                                                                                                                                                                                  APPLICANT: Vandlen, Richard L.
Holmes, William E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE DESCRIPTION: SEQ ID NO: 15:
                                                                                                                                                                                                                                                                                                                                                                                                                                            201 LAAIAAFMSAVILTAVAVITVQLRRQY 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  141 KKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIA 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/440,401
FILING DATE: 12-MAY-1995
APPLICATION NUMBER: 08/330161
FILING DATE: 25-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (Genentech)
APPLICATION DATA:
APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25

    KKŃPCNABPONFCTHGECKYTEHLEAVTCKCOOEYFGERCGEKSMKTHSMIDSSLSKIA

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34.7%;
Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                      LAATAAFMSAVILTAVAVITVOLKROY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 08/035430
FILING DATE: 22-MAR-1993
APPLICATION NUMBER: 07/705256
FILING DATE: 24-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/10/022,609
FILING DATE: 17-Dec-2001
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                San Bruno Blvd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ٥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 454; DB 14;
; Pred. No. 1.9e-33;
                                                           360 Kb floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                            Production and Use
                                                                                                                                                                                                                                   Ligands
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
```

0,

Gaps

CURRENT APPLICATION DATA:

```
ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 10
US-10-201-945-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-022-609-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 11, Application. Sequence 11, Application. Sequence 11, Application. Sequence 11, Application. US20020188110A1
Publication Nd. US20020188110A1
GENERAL INFORMATION:
GENERAL INFORMATION:
Fuldner, Rebecca A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     THLEFAX: 415/952-9881
THLEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
           COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/201,945
FILING DATE: 25-Jul-2002
CLASSIFICATION : CUnknown>
PRIOR APPLICATION UNMER: US/09/471,377
FILING DATE: 23-Dec-1999
APPLICATION NUMBER: US/09/471,377
FILING DATE: 23-Dec-1999
APPLICATION NUMBER: US/09/471,377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Lee, Wendy M.
REGISTRATION NUMBER: 00,000
                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Human Genome Sciences, Inc
STREET: 9410 Key West Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Adams, Mark D.
TITLE OF INVENTION: Transforming Growth Factor Alpha NUMBER OF SEQUENCES: 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: TELECOMMUNICATION INFORMATION: TELEPHONE: 415/225-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE DESCRIPTION: SEQ ID NO: 16:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         141 KKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIA 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     201 LAATAAFMSAVILTAVAVITVQLRRQ 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08/440,401
FILING DATE: 12-MAY 1995
APPLICATION NUMBER: 08/330161
FILING DATE: 25-OCT 1994
APPLICATION NUMBER: 08/035430
FILING DATE: 22-MAR-1993
APPLICATION NUMBER: 07/705256
FILING DATE: 24-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LAAIIVFVSAVSVAAIGIITAVLLRK 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KKKNPCAAKFONFCIHGECRYIENLEVVTCHCHODYFGERCGEKTMKTQKKDDSDLSKIA 60
                                                                                                                                                                                                                                                                                                                                                    STATE: MD
                                                                                                                                                                                                                                                                                                           ZIP: 20850
                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                         CITY: Rockville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/10/022,609 FILING DATE: 17-Dec-2001
FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 87 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Score 320; DB 14;
; Pred. No. 2.7e-21;
10; Mismatches 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          712C3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
```

```
APPLICANT: Young et al.
TITLE OF INVENTION: Heregulin-Like Factor
FILE REFERENCE: PF383D1
CURRENT APPLICATION NUMBER: US/10/609,370
CURRENT FILING DATE: 2003-07-01
PRIOR APPLICATION NUMBER: 09/097,681
PRIOR FILING DATE: 1998-06-16
PRIOR PELING DATE: 1998-06-16
PRIOR APPLICATION NUMBER: 60/049,942
PRIOR APPLICATION NUMBER: 60/049,942
PRIOR PILING DATE: 1997-06-17
NUMBER OF SEQ ID NOS: 22
SOFTWARE: PatentIn version 3.2
SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 12
US-10-096-241-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; ORGANISM: Homo sapiens US-10-609-370-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 11
US-10-609-370-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-201-945-11
                                                                                                                                                                                                                                                                                                                             Sequence 18, Application Publication No. US2002 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 21.6%; Score 283; DB 15; Best Local Similarity 100.0%; Pred. No. 2.9e-18; Matches 49; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 14, Application US/10609370 Publication No. US20040048295A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 100. Matches 52; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
                                                                                                                                                                                               Busfield, Samantha J. TITLE OF INVENTION: DON-1 GENE AND POLYPEPTIDES
                                                                                                                                                                                                                                           APPLICANT: Gearing, David P.
Busfield, Samanth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO: 11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Brookes, A. Anders REGISTRATION NUMBER: 36,373 REFERENCE/DOCKET NUMBER: PFTELECOMMUNICATION INFORMATION:
                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 140 RKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKT 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        135 KWRRNRKKKWPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSM 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 RKKKNPCNAEFONFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKT 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSM 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 52 amino acids
TYPE: amino acid
STRANGENESS: single
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: 301-309-8504
TELEX: 301-309-8439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 08/208,008 FILING DATE: 08-MAR-1994
                                                                                                                                                                                                                                                                                                                                                                                                            Application US/10096241
                                                                                                                                                                                                                                                                                                                                                                         US20020127594A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22.9%; Suc. 100.0%; Pred. No. 100.0%; Pred. No. 100.0%; Pred. No. 100.0%; Page 100.
                                                                                                                                                                 AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 300; DB 13;
; Pred. No. 9.1e-20;
rematches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PF110D1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
```

0

Length 45; Indels

0,

Gaps

٥,

```
RESULT 13
US-09-817-647-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 18:
US-10-096-241-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 10, Application US/09817647
Patent No. US20020082229A1
GENERAL INFORMATION:
APPLICANT: Godowski, Paul J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 20.5%; Sc Best Local Similarity 100.0%; I Matches 46; Conservative 0;
                                                             COMPUTER READABLE FORM.

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Winpatin (Genentech)

APPLICATION NUMBER: US/09/817,647
FILING DATE: 26-Mar-2001
CLASSIFICATION UNMER: 109/107,979
PRIOR APPLICATION DATA: APPLICATION NUMBER: 09/107,979
FRICH APPLICATION NUMBER: 09/107,979
FRICH APPLICATION NUMBER: 09/107,979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEX: «Unknown»
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:

APPLICATION DATA:

APPLICATION NUMBER: 08/699,591

FILING DATE: 19-AUG-1996

ATTORNEY/AGENT INFORMATION:

REGISTRATION NUMBER: 32,983

REFERENCE/DOCKET NUMBER: 07334/022001

TELEPHONE: 617-542-8906

TELEPHONE: 617-542-8906
                                        ATTORNEY/AGENT INFORMATION:
NAME: Conley, Deirdre!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
OPERATING SYSTEM: DOS
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/096,241
FILING DATE: 12-Mar-2002
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong Xiao
TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related
Ligands and Uses Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 KKKNPCNÁBPÓNPCÍHGECKÝÍBHLBÁVTCKCÓÓBÝPGBRCGEKSM 46
                  REGISTRATION NUMBER: 36,487
                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: Callfornia
                                                                                                                                                                                                                                                                                                            ZIP: 94080
                                                                                                                                                                                                                                                                                                                             COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 46 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: US
ZIP: 02110-2804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STATE: MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 268; DB 13;
; Pred. No. 6.2e-17;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 14
US-09-877-665-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 10, Application US/09877665
Patent No. US20020164680A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE DESCRIPTION: SEQ ID NO: 10: US-09-817-647-10
                                                                                                                                INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: Amino Acid
                                                                                                                                                                                           COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Windatin (Genentech)
APPLICATION STATE: US/09/877,665
FILING DATE: 08-Oun-2001
CLASSIFICATION NUMBER: US/09/877,665
FILING DATE: 08-Oun-2001
PRIOR APPLICATION NUMBER: US/09/109,206
FILING DATE: 30-Jun-1998
APPLICATION NUMBER: US/09/109,206
FILING DATE: 30-Jun-1998
ATTORNEY, AGENT INFORMATION:
REGISTRATION NUMBER: 36,487
REGERENCE/DOCKET NUMBER: 91084R1-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-2086
TULEPHONE: 650/252-2086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 10: SEQUENCE CHARACTERISTICS: LENGTH: 45 amino acids TYPE: Amino Acid
SEQUENCE DESCRIPTION: SEQ ID NO: 10:
                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong Xiao TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related Ligands and Uses Therefor NUMBER OF SEQUENCES: 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          142 KKNPCNAEFONFCIHGECKYIEHLEÄVTCKCOOEVFGERCGEKSM 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION
TELEPHONE: 65
                    LOCATION: 1-45
IDENTIFICATION METHOD:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 KKNPCNÁEFQNFCÍHGECKYÍEHLEAVTCKCQQEYFGERCGEKSM 45
                                                                                   NAME/KEY:
                                                                                                                   TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 94080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: South San
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IDENTIFICATION METHOD: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: P1084R1-2
COMMUNICATION INFORMATION:
TELEPHONE: 650/225-2066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: 650/952-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         : 1 DNA Way
: 1 Pan Francisco
                                                               hAR.egf
1-45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genentech, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hAR.egf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20.1%; Score 263; DB 9; 1
100.0%; Pred. No. 1.7e-16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
```

```
APPLICANT: Godowski, Paul J.
APPLICANT: Godowski, Paul J.
APPLICANT: Godowski, Paul J.
APPLICANT: Shang, Dong Xiao
ITILE OF INVENTION: ErbB Receptor-Specific Neuregulin Related Ligands and
TITLE OF INVENTION: Uses Therefor
FILE REFERENCE: P1084RIC2
CURRENT APPLICATION NUMBER: US/10/136,573A
CURRENT APPLICATION NUMBER: US 09/480,977
PRIOR APPLICATION NUMBER: US 09/480,977
PRIOR APPLICATION NUMBER: US 08/899,437
PRIOR APPLICATION SEQ ID NOSE 23
SEQ ID NO 10
LENGTH: 45
TYPE: PRT
CORGANISM: Homo sapiens
US-10-136-573A-10
Search completed: February 26, 2005, 16:56:18 Job time : 136 secs
                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 15
US-10-136-573A-10
                                                                                                                                                                                                                                                       Query Match 20.1%; Score 263; DB 13; Length 45; Best Local Similarity 100.0%; Pred. No. 1.7e-16; Matches 45; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 10, Application US/10136573A Publication No. US20020161200A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 20.1%; Score 263; DB 9; Length 45; Best Local Similarity 100.0%; Pred. No. 1.7e-16; Matches 45; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                    142 KKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSM 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         142 KKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSM 186
                                                                                                                           1 KKNPCNAEFONFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSM 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 KKNPCNAEFONFCIHGECKYIEHLEAVTCKCOOEYFGERCGEKSM 45
                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
```

THIS PAGE BLANK (USS)

72- <sub>3</sub>3

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OM protein - protein search, using sw model
        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
      144.5
143.1
137
119.5
1119.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
1114.5
114.5
114.5
114.5
114.5
114.5
114.5
                                                                                                                                                                                                                                                                                                                                                                                                            185.5
184.5
162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-774-076-1
1308
1 MRAPLLPPAPVVLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PIR 79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0
70.2
66.9
16.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     February 26, 2005, 16:28:46 ; Search time 40 Seconds (without alignments) 606.166 Million cell updates/sec
      283416 seqs, 96216763 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MRAPLLPPAPVVLSLLILGS......GEAEERKKLRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length DB
                                          Gapext 0.5
                                          EGHU
JC5700
S68401
S30385
S27195
A61040
S39795
A61140
WFRU1
WFRU1
I57497
JC5701
                                                                                                                                                                                                                                                                                        JH0612

JH0612

S13296

A38432

A41914

JC1409

JC1409

S27162

G01639

S271639

S46914

S58191

A37408

B71618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               283416
                                                        transforming growt BrbB kinase activa
                                                                                                                                                                                                                                                                                                      heparin-binding EG diptheria toxin re heparin-binding EG heparin-binding EG heparin-binding ep transmembrane prot hypothetical prote EGF-like growth fa betacellulin precu ErbB kinase activa
betacellulin precu
protein lin-3 [imp
lin-3 protein prec
                                                                                                                                                                                                              G9a protein - huma
                                                                                                                                                                                                                              epiregulin precurs
                                                                                                                                                                                                                                                  epidermal growth f
ErbB kinase activa
                                                                                                                                                                                                                                                                                        merozoite surface
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amphiregulin precu
amphiregulin precu
Schwannoma-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Description
```

4.4	43	42	41	40	39	38	37	36	35	34	ω u	32	31	30
96.5	97.5	98	99	99	100	100.5	100.5	101	102	102.5	103.5	103.5	104	104
7.5	7.5	7.5	7.6	7.6	7.6	7.7	7.7	7.7	7.8	7.8	7.9	7.9	8.0	8.0
1217	462	140	645	442	582	662	296	639	661	511	1133	636	1670	637
H 6	N	2	N	N	N	N	N	N	N	N	Н	N	N	N
EGMSMG	I38404	T30766	B43273	H86276	S69720	161722	A56943	I61719	T42754	JC1404	EGRT	I61718	T06754	C43273
٠.		•												
nereguin precurso epidermal growth f	neu differentiatio	growth factor - va	heregulin, splice	F14L17.4 protein -	hypothetical prote	neu differentiatio	sensory/motor neur	neu differentiatio	hypothetical prote	CDEI-box DNA-bindi	epidermal growth f	neu differentiatio	DNA-directed RNA p	heregulin precurso

## ALIGNMENTS

A; Molecule type: protein A; Residues: 101:126.; cCOO A; Residues: 101:126.; cCOO A; Residues: 101:126.; cCOO C; Comment: Amphiregulin idea; secreted protein that is released from the tran C; Genetics: A; Genetics: A; Genetics: A; Genetics: A; Cross-references: GDB:119697; OMIM:104640 A; Map position: 4q13-4q21 A; Introns: 21/1; 104/1; 171/1; 222/2 C; Superfamily: amphiregulin; EGP homology C; Keywords: extracellular protein; glycoprotein; growth factor; transmembrai F;1-19/Domain: signal sequence #status predicted <sig- #status="" <mal="" amphiregulin="" experimental="" f;101-184="" form="" long="" product:=""> F;107-184/Product: amphiregulin short form #status experimental <mas> F;146-181/Domain: EGF homology <egf></egf></mas></sig->	A; Molecule type: protein A; Residues: 101-112,'D', 114-184 <sh1> A; Residues: 101-112,'D', U.; Bradley, J.G.; Todaro, G.J. R; Shoyab, M.; McDonald, V.L.; Bradley, J.G.; Todaro, G.J. R; Shoyab, M.; McDonald, Sci. U.S.A. 85, 6528-6532, 1988 Proc. Natl. Acad. Sci. U.S.A. 85, 6528-6532, 1988 A; Title: Amphiregulin*Kakbifunctional growth-modulating glycoprotein produced A; Reference number: A94205; MUID:88320474; PMID:3413110 A; Recession: A31230 A; Molecule type: protein A; Residues: 101-112,'D', 114-131 <sh2> R; Cook, P.W.; Mattox, P.A.; Keeble, W.W.; Pittelkow, M.R.; Plowman, G.D.; Sho Mol. Cell. Biol. 11, 2547-2557, 1991 A; Title: A heparin sulfate-regulated human keratinocyte autocrine factor is sulfate-regulated human kerat</sh2></sh1>	A; Accession: A34702 A; Molecule type: DNA A; Besidues: 1-25 <pli> A; Cross-references: UNIPROT: P15514; GB:M30698 A; Cross-references: UNIPROT: P15514; GB:M30698 A; Cross-references: GB:M30704; NID: g179039; PIDN: AAA51781.1; PID: g179040 A; Cross-references: GB:M30704; NID: g179039; PIDN: AAA51781.1; PID: g179040 A; Cross-references: GB:M30704; NID: g179039; PIDN: AAA51781.1; PID: g179040 A; Cross-references: GB:M30704; NID: g179039; PIDN: AAA51781.1; PID: g179040 A; Cross-references: GB:M30704; NID: g179039; PIDN: AAA51781.1; PID: g179040 A; Title: Structure and function of human amphiregulin: a member of the epidermal A; Reference number: A30057; MUID: 89162036; PMID: 2466334 A; Accession: A30057</pli>	RESULT 1 A34702 amphiregulin precursor [validated] - human c;Species: Homo sapiens (man) C;Date: 30-Sep-193 #sequence revision 30-Sep-1993 #text change 09-Jul-2004 C;Accession: A34702; B34702; A30057; A31230; A39788; A30056 R;Plowman, G.D.; Green, J.W.; McDonald, V.L.; Neubauer, M.G.; Disteche, C.M., Tor Mol. Cell. Biol. 10, 1969-1981 1990 A;Title: The amphiregulin gene encodes a novel epidermal growth factor-related p. A;Reference number: A34702; MUID:90220581; PMID:2325643

```
A.Residues: Jrv. ......

A.Cross-references: GB:L441352; NID:gB45598; PIDN:AAB00472.1; PID:gB45599

A.Cross-references: GB:L441352; NID:gB45598; PIDN:AAB00472.1; PID:gB45599

C.Comment: Amphiregulin is a secreted protein that is released from the transmembrane processing in the extracellular protein; glycoprotein that is released from the transmembrane processing in the properties of the product of the processing in the product of the pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;Molecule type://mRNA;
;Residues: 1-248 <SONs;
;Residues: 1-248 <SONs;
;Cross-references: UNIPROT:P31955; GB:D12648; DDBJ:D01182; NID:g220599; PIDN:BAA02169.1;
;Pas S. K.; Chakraborty, I.; Paria, B.C.; Wang, X.N.; Plowman, G.; Dey, S.K.;
;Title: Amphiregulin is an implantation-specific and progesterone-regulated gene in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;Sonoda, H.; Yamaguchi, T.; Watanabe, S. lochem. Blophys. Res. Commun. 185, 103-109, 1992; Tittle: Androgeh responsive expression and mitogenic activity of schwannoma-derived graphscession: JH0612; MUID:92287078; PMID:1318038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Imphiregulin pretursor - mouse

NyAlternate names: Schwannoma-derived growth factor precursor

C;Species: Mus musculus (house mouse)

C;Jate: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ДĎ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F;199-221/Domain: transmembrane #status predicted <TM1>F;222-252/Domain: intracellular #status predicted <TM1>F;30,113,119/Binding site: carbohydrate (Asn) (covalent) #status predicted <INT>F;146-159,154-170,172-181/Disulfide bonds: #status predicted
1 MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKRBPFSGDHSADGFEVTSRSEMSSG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241 LROENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILIAVAVITVQLRRQYVRKYEGEAEERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 CGÉKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVOLRRQYVRKYEGEAEERKK 240
                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPPSGDHSADGPEVTSRSENSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNPCIHGECKYIEHLEAVTCKCQQEYFGER 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŚĖÍŚPVŚEMPŚŚSEPŚŚGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPONKTESENT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                       70.2%; Score 918; DB 1; Length 248; 69.4%; Pred. No. 2.1e-64; Live 27; Mismatches 41; Lindels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 1308; DB 1; 100.0%; Pred. No. 8e-95; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                RESI
A38,
hep,
C;SI
C;D,
C;D,
C;A,
R;H;
Scie
```

RE; A3; hel C; C C; A C; A C; A R; H Sci	40 40 40 40 60 60 60 60 60 60 60 60 60 60 60 60 60		
ESULT 4  38432  eparin-binding    pare: Homo s  pare: 10-Sep-15  Accession: Ag-15  ience 251, 936-  Title: A heparin  Reference number	Best Local Matches 1:  Oy 1  Db 1  Ob 52  Db 121  Db 111;  Db 111;  Db 111;  Db 111;  Db 121  Db 121;  Db 130;  Db 130;	RESULT 3 \$13296 \$CIMMAINDMA-derived gr C,Species: Rattus nor C,Pate: 21-Nov-1993 # R,Kimura, H.; Fischer, A,Title: Structure, ex A,Accession: \$13296 Nature 348, 257-260, 1 A,Reference number: \$1 A,Molecule type: mRNNA A,Cross-references: UNN C,Keywords: transmenbra F,137-172/Domain: EGF Query Match	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
RESULT 4 A38432 heparin-binding EGF-like growth factor pr C;Species: Homo sapiens (man) C;Accession: A38432; A37300 R;Higashiyama, S; Abraham, J.A.; Miller, A;Title: A heparin-binding growth factor s A;Reference number: A38432; MUID:91157008;	Similarity 69 7; CONSERVALIV MRAPLIPPAPVVLSI                   MRTPSISIALSVISI SEISPVSEMPSSSEP	RESULT 3 S13296 Schwannoma-derived growth factor - rat C;Species: Rattus norvegicus (Norway r. C;Date: 21-Nov-1993 #sequence_revision R;Kimura, H.;Fischer, W.H.; Schubert, R;Kimura, H.;Fischer, W.H.; Schubert, A;Title: Structure, expression and func A;Reference number: S13296; MUID:910430 A;Residues: 1-243 KIM, A;Cross-references: UNIPROT:P24338; GB:)C;Keywords: transmembrane protein C;Superfamily: amphiregulin; EGF homology -EGF- Cyery Match	1 H
ecur -Sep- J.; ecre	.9%; SCOTE 874.5; 24; MISMATCHES LLILGSGHYANGLDLNDTYS,	factor - rat s (Norway rat) nce_revision 10. ; Schubert, D. ion and function MUID:91043095; P24338; GB:X551 EGF homology TY <egfs.< td=""><td>                                     </td></egfs.<>	
uman :ext_ch J.C.; macroph	* 874.5; DB 2; Length No. 5.1e-61; Indels GLULNDTYSGKREPFSGDHSADG	ov-1995 #text of a schwannc MID:2234093	AALELADPSSGKGES  EYDNEPQIPGYIVD
ange 09-Jul-2004 Klagabrun, M. age-like cella that	N N L W. H , Ñ W	rived grow	PONKT
	5, G 60 - 51 110 110 179 179 238	004 th facto	:    ELSVG 5, ESENT 12     : BEGEKS 11   

```
RESULT 5
A41914
A41914
diptheria toxin receptor precursor - green monkey
C;Species: Cercopithecus aethiops (green monkey, grivet)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: UNIPROT:Q09118; GB:M93012
R;Hooper, K.P.; Eidels, L.
Biochem. Biophys. Res. Commun. 220, 675-680, 1996
A;Title: Glutamic acid 141 of the diptheria toxin receptor (HB-EGF A;Reference number: JC4687; MUID:96183008; PMID:8607824
A;Accession: JC4687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cell169, 1051-1061, 1992
A;Title: Expression cloning
A;Reference number: A41914;
A;Accession: A41914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Map position:
C; Superfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: UNIPROT:Q99075; GB:M60278; NID:g183866; PIDN:AAA35956.1; PID:g1838 R;Higashiyama, S.; Lau, K.; Besner, G.E.; Abraham, J.A.; Klagsbrun, M. J. Besner, G.E.; Abraham, J.A.; Klagsbrun, M. S.; Lau, K.; Besner, G.E.; Abraham, J.A.; Klagsbrun, M. S.; Lau, K.; Besner, G.E.; Abraham, J. A.; Klagsbrun, M. S.; Lau, K.; Besner, G.E.; Aprilie: Structure of heparin-binding EGF-like growth factor. Multiple forms, primary A;Title: Structure of heparin-binding EGF-like growth factor.
                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: mRNA
A;Residues: 1-208 <HOO>
C;Comment: This precursor is a transmembrane glycoprotein which is cleaved
C;Superfamily: heparin-binding EGF-like growth factor; EGF homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary
A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Accession: A41914; JC4687
R;Naglich, J.G.; Metherall, J.E.; Russell, D.W.; Eidels,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: protein
A; Residues: 63-74,'X', 76-84,'X', 86-148 <HI2>
                        밁
                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Gene: GDB: DTR; DTS; HEGFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Reference number: A37300; MUID:92210596; PMID:1556128 A;Accession: A37300
                                                                                                                                                                                                                                                        Reywords: receptor; transmembrane protein; 1-3/Domain: signal sequence #status predicted <SIGs; 1-35/Dproduct: diptheria toxin receptor precursor #;63-150/Product: diptheria toxin receptor precursor #;108-143/Domain: EGF homology <BGF>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;Residues: 1-208 <NAG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;108-143/Domain: EGF homology <EGF>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Superfamily: heparin-binding EGF-like growth factor; Keywords: heparin binding; transmembrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;Cross-references: GDB:119853; OMIM:126150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;Molecule type: mRNA
;Residues: 1-208 <HIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100 DSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGEC 159
                                                                          100
                        70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55;
                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VGLLMFRYHRRGGYDVENEEKVKLGMTNSH 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TVQLRRQYVRK--YEGEAEERKKLRQENGN 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVI 219
                        DLLRVTLSSKPQALATPSK--EEHGKRKKKGKGLG-----
                                                                          DSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KYVKELRAPSCICHPGYHGERCHGLSLPVENRLYTYDHTTILAVVAVVLSSVCL---LVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DILRVTLSSKPQALAT - - PNKEEHGKRKKKGKGLG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5q23-5q23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                  transmembrane #status predicted <TRN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16.2%;
                                                                                                                            16.2%; Score 211.5; DB 1; 36.7%; Pred. No. 2.3e-09; tive 24; Mismatches 58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of a diphtheria toxin receptor: identity with a heparin-bind MUID:92298386; PMID:1606612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 211.5; DB 1;
Pred. No. 2.3e-09;
3; Mismatches 59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                       #status
                        -KKRDPCLRKYKDFCIHGEC
                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EGF homology
                                                                                                                                                                                                                                                                                         predicted
                                                                                                                                                                                   208;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13;
                                                                                                                            13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               precursor)
                                                                                                                               Gaps
                                                                          159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                        121
                                                                                                                                                                                                                                                                                                                                                                                                at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PID:g183867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18
                                                                                                                                                                                                                                                                                                                                                                                                ርታ
                                                                                                                                                                                                                                                                                                                                                                                                ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  critica
A;Residues: 1-208 <ABR>
A;Residues: 1-208 <ABR>
A;Cross-references: UNIPROT:Q06175; GB:L05489; NID:g204289; PIDN:AAA81780.1;
A;Cross-references: UNIPROT:Q06175; GB:L05489; NID:g204289; PIDN:AAA81780.1;
C;Superfamily: heparin-binding EGF-like growth factor; EGF homology
C;Keywords: growth factor; heparin binding; transmembrane protein
C;Keywords: growth factor; heparin binding; transmembrane protein
C;Keywords: growth factor; heparin binding; transmembrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                              A;Title: Heparin-binding EGR
A;Reference number: JC1409;
A;Accession: JC1409
                                                                                                                                                  A; Molecule type: mRNA
                                                                                                                                                                                                                                                                 Biochem. Biophys.
```

```
RESULT 7
JC1409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: UNIPROT:Q06186; GB:L07264; NID:g192999; PIDN:AAA37542.1; R;Harding, P.A.; Brigstock, D.R.; Shen, L.; Crissman-Combs, M.A.; Besner, G.E Gene 169, 291-292, 1996
Gene 169, 291-292, 1996
A;Title: Characterization of the gene encoding murine heparin-binding epiderm A;Reference number: JC4659; MUID:96194822; PMID:8647467
                                                                                                                    heparin-binding EGF-like growth factor precursor - C;Species: Rattus norvegicus (Norway rat) C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Introns: 16/1; 74/1; 133/2; 185/2
C;Superfamily: heparin-binding EGF-like growth factor; EGF homolog C;Keywords: growth factor; heparin binding; transmembrane protein F;1-23/Domain: signal sequence #status predicted <SIG>F;24-208/Product: heparin-binding EGF-like growth factor #status F;108-143/Domain: EGF homology <EGF>F;161-184/Domain: transmembrane #status predicted <TVM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Abraham, J.A.; Damm, D.; Bajardi, A.; Miller, J.; Klan
Biochem. Biophys. Res. Commun. 190, 125-133, 1993
A;Title: Heparin-binding EGF-like growth factor: Charac
A;Reference number: JC1409; MUID:93135756; PMID:7678488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   heparin-binding EGF-like growth factor precursor - C;Species: Mus musculus (house mouse) C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999
                                                                            R;Abraham,
                                                                                                 C; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Gene: mHB-EGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: DNA
A;Residues: 1-208 <HAR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Residues: 1-208 <ABR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cross-references: GB:U39189; Comment: This factor is a m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               160
J.A.; Damm, D.; Bajardi, A.; Miller, J.; Klagsbrun, M.; itophys. Res. Commun. 190, 125-133, 1993 leparin-binding EGF-11ke growth factor: Characterization e number: JC1409; MUID:93135756; PMID:7678488
                                                                                                                                                                                                                                                                                                                                                            184 KSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRK--YEGEAEBRKKL
                                                                                                                                                                                                                                                                                                                                                                                                              86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JC4659
                                                                                                    JC1409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JC1410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JC1410; JC4659
                                                                                                                                                                                                                                                                                                                                                                                                                                                      PKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGE 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVI
                                                                                                                                                                                                                                                                                                                                                                                                         PSKERNGKKKKKGKGLGKKRDPCLRKYKDYCIHGECRYLQEFRTPSCKCLPGYHGHRCHG 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VGLLMFRYHRRGGYDVENEEKVKLGMTNSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TVQLRRQYVRK--YEGEAEERKKLRQENGN 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KYVKELRAPSCICHPGYHGERCHGLSLPVENRLYTYDHTTILAVVAVVLSSVCL---LVI 178
                                                                                                                                                                                                                                                                                                            LTLPVENPLYTYDHTTVLAVVAVVLSSVCL---LVIVGLLMFRYHRRGGYDLESEEKVKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a member of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 185.5; DB 1;
Pred. No. 2.5e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  epidermal growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J.; Klagsbrun, M.; Ezekowitz,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Characterization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  48;
                                                                                                                         #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EGF homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     factor
                                                                               M.; Ezekowitz,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0£
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      epidermal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Its
                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PID:g19300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R.A.B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDNA
```

ä

윴

rat

and

PID:g20429

```
Ś
                                            В
                                                                         Ś
                                                                                                                                                                                                                                                          submitted to the EMBL Data Library, A;Reference number: G07997 A;Accession: G01639
                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 9
G01639
                                                                                                                                                                                                                                    A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                heparin-binding epidermal growth factor - pig (fragment)
C:Species: Sus scrofa domestica (domestic pig)
C:Date: 07-Apr-1994 #sequence_revision 07-Apr-1994 #text_change 09-Jul-2004
C:Accession: S27162; S25158
R:Vaughan, T.J.; Pascall, J.C.; Brown, K.D.
Biochem. J. 287, 681-684, 1992
A:Title: Tissue distribution of mENA for heparin-binding epidermal growth f.
A;Reference number: S27162; MUID:93075016; PMID:1445231
                                                                                                                                                                                                                                                                                                                                                                            transmembrane protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: UNIPROT:Q01580; EMBL:X67295; NID:g1969; PIDN:CAA47709.1; C;Superfamily: heparin-binding EGF-like growth factor; EGF homology C;Keywords: growth factor; heparin binding F;10-45/Domain: EGF homology <EGF>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: mRNA
A; Residues: 1-84 < VAU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                              Query Match
Best Local
                                                                                                                                                                         275-310/Domain: EGF homology <EGF>
                                                                                                                                                                            Cross-references: UNIPROT:Q13086; EMBL:U19878; NID:g755465; PIDN:AAA64622.1; PID:g755
                                                                                                                                                                                                              ;Molecule type: mRNA
;Residues: 1-380 <EI
                                                                                                                                                                                                                                                                                                                  Eib,
                                                                                                                                                                                                                                                                                                                                         ;Species: Homo sapiens (man)
;Date: 21-Dec-1996 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F;24-208/Product:
F;108-143/Domain:
F;161-184/Domain:
                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                            Accession: G01639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;161-184/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                             Госат
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
              0
                                                                             24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             201 LAAIAAFMSAVILTAV 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141 KKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIA 200
                                                                                                             54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     184 KSMKTHSMIDSSLSKIALAAIAAFWSAVILTAVAVITVQLRRQYVRK--YEGFAFERKKL 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  124 PKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQOEYFGERCGE 183
                                                                                                                                                                                                          1-380 <EIB>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ហ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86 PGKEKNGKKKRKGKGLGKKRDPCLKKYKDYCIHGECRYLKELRIPSCHCLPGYHGQRCHG 145
                                                                                                                           Similarity
GSEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDS-VRVEQV-VKPPQNKTES 117
                               ARGPCYSDNGSGSGE----GEEEGSGAEVHRKHSKCGPCKYKAECDEDAENVGCVCNIDCS 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                      AAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEM---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                             LAVVAVVLSSVCLLVI 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LTLPVENPLYTYDHTTVLAVVAVVLSSVCL---LVIVGLLMFRYHRRGGYDLESBEKVKL
                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          transmembrane #status predicted <TMM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               heparin-binding EGF-like growth factor #status EGF homology <EGF>
                                                                                                                         11.0%;
21.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14.1%;
                                                                                                         45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28;
                                                                                                                    Score 144.5; DB 2
Pred. No. 0.00076;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 162; DB 2;
Pred. No. 6.1e-06;
7; Mismatches 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 184.5;
Pred. No. 2.
                                                                                                                                                                                                                                                                                         January
                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                              06-Jun-1997 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .9e-07;
                                                                                                                                     DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 1; Length 208;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 84;
                                                                                                  Indels
                                                                                                                                  Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                    55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          predicted
                                                                  ----SS 59
                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          202
                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PID:g1970
```

```
EGF-like growth factor, precursor - green monkey Grivet) (;Species: Cercopithecus aethiops (green monkey, grivet) C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change
                                                                       RESULT 11
S58117
                                                                                                                                            В
                                                                                                                                                                             Ş
                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              submitted to the Protein Sequence Database, February 2
A;Reference number: Z24136
A;Refession: T46914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Note:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-346 < AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Homo sapiens (man)
C;Date: 17-Mar-2000 #sequence_revision 17-Mar-2000 #text_change 09-Jul-2004
C;Accession: T46914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein DKFZp564L1878.1 - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;Cross-references: UNIPROT: 09NSS5; Experimental source: fetal brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DKFZp564L1878.1
                                                                                                                                 294 GYTGOHCEKKDYSVLYVVPGPV-RFQYVLIAAVIGTIQIAVICVVVLCITR
                                                                                                                                                                                                                                                                                         177
                                                                                                                                                                                                                                                                                                                                                 127 ILVVSEGSCA-----TDAGSG-----SGDGVHEGSGETSQKETSTCDICQFGAECDEDAE 176
                                                                                                                                                                                                                                                                                                                              69
                                                                                                                                                                                                                                                                                                                                                                                    15 LIILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSS-----GSEISPVSE 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1-346 <AAA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                  EYFGERÇGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRR 225
                                                                                                                                                                                                      TTKSEDGHYARTDYAENANKLEESAREHHIPCPEHYNGFCMHGKCEHSINMQEPSCRCDA
                                                                                                                                                                                                                                       SENTSPKPKRKKKGGKNGKNRRNRKKKN--PCNAEFQNFCIHGECKYIEHLEAVTCKCQQ 174
                                                                                                                                                                                                                                                                          DVWCVCNIDCSQTNFNPLCASD---GKSYDNACQIKEASCQKQEKIEVMSLGRCQDNTTT 233
                                                                                                                                                                                                                                                                                                               ------MPSSSEPSSGADYDYSEEYDNEPQI--PGYIVDDSVRVEQVVKPPQNKTE 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NNRGRRQKQ 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRCESGYTGQHC-EKTDFSILYVVPSRQKLTHVLIAAIIGAVQIAIIVAIVMCITRKCPK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CKCQQEYFGERCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ENTS-----DKPKRKKKGGKNGKNRRNR----KKKNPCNAEFQNFCIHGECKYIEHLEAVT 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KYEGEAEER 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DDTSLLGKKDDGLQYRPDVKDASDQREDVYIGNHMPCPENLNGYCIHGKCEFIYLLRRAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GYSFNPVCASDGSS----
                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                10.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                   46;
                                                                                                                                                                                                                                                                                                                                                                                                                           Score 143; DB 2;
Pred. No. 0.0009;
6; Mismatches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----YNN----PCFVREASCIKQEQIDIRHLGHCTDT 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL:AL157430
clone DKFZp564L1878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .w.; Weil, B.; Wiemann, February 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 2; Length 346;
                                                                                                                                                                                                                                                                                                                                                                                                                               104;
                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                             34;
                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                        293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             298
```

C.Date: 13-Jan-1996 #sequence\_revision 01-Mar-1996 #text\_cl C;Accession: S58117 E;Houkianov, E.V.; Loukianov, T.I.; Wiedlocha, A.; Olsnes, submitted to the EMBL Data Library, July 1995 A;Description: Short form of heparin binding EGF-like grow A; Reference number: S58117 A; Accession: S58117 heparin binding EGF-like growth factor

A;Molecule type: DNA A;Residues: 1-141 <LOU> A;Residues: 1-141 <LOU> A;Cross-references: UNIPROT:Q28218; EMBL:X89728; NID:g1052560; PIDN:CAA61880.1; C;Superfamily: heparin-binding EGF-like growth factor; EGF homology PID:g105

Query Match

Status: preliminary

10.5%; Score 137; В 2; Length 141;

```
RESULT 12
A37408
betacellulin precursor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 #sequence_revision 17
C;Date: 17-Apr-1993 #sequence_revision 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 13
JC5702
                                          A;Cross-references: DDBJ:AB001576; NID:g2605478; PIDN:BAA23348.1; PID:g2605479
A;Experimental source: PC-12 cell
C;Comment: This protein is a member of the epidermal growth factor family. It ating the differentiation of MDA-MB-453 cells.
C;Superfamily: human BrbB kinase activator alpha, brain and thymus; EGF homolog;Keywords: glycoprotein
C;Keywords: glycoprotein
F;274-327/Domain: Ig-like #status predicted <IGL>
F;361-397/Domain: EGF homology <EGF>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Molecule type; mRNA
A;Residues: 1-177 <SHI>
A;Cross-referendes: UNIPROT:Q05928; GB:L08394; NID:g293852; PIDN:AAA40511.1; PID:g293853
C;Keywords: transmembrane protein
F;69-104/Domain: EGF homology <EGF>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Accession: A37408
R;Shing, Y.; Christofori, G.; Hanahan, D.; Ono, Y.; Sasada, Science 259, 1604-1607, 1993
A;Title: Betacellulin: a mitogen from pancreatic beta cell A;Reference number: A37408; MUID:93206093; PMID:8456283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 'F', 212-213, 223-860 <HI2>
                                                                                                                                                                                                                                                                                           A;Cross-references: UNIPROT:035569; DDBJ:D89996; NID:g2605631; PIDN:BAA23345.1; A;Experimental source: PC-12 cell A;Accession: PC4417
                                                                                                                                                                                                                                                                                                                                                            A;Status: nucleic acid sequence not A;Molecule type: mRNA A;Residues: 1-860 <HIG>
                                                                                                                                                                                                                                                                                                                                                                                                                              J. Biochem. 122, 675-680, 1997
A;Title: A novel brain-derived member of the epidermal growth factor family that
A;Reference number: JC5700; MUID:98006324; PMID:9348101
A;Accession: JC5702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Higashiyama, S.; Horikawa, M.; Yamada, K.; Ichino, N.; Nakano, J. Biochem. 122, 675-680, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       გ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Accession: A37408
A;Status: preliminary
                                                                                                                                                                                                                                                                      Status: nucleic acid sequence not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rbB kinase activator alpha2a, brain and thymus - rat
;Species: Rattus norvegicus (Norway rat)
;Date: 25-Nov-1997 #sequence_revision 25-Nov-1997 #text_change 09-Jul-2004
;Accession: JC5702; PC4417
                       361-397/Domain:
422-444/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       131 GKN--GKNRRNRKKK--NPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSM 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---FYLQQDRGQILVVCLIVVMVVFIILVIGVCTCCHPLRKHRKKKKEEKMETLDK 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITV--QLRRQYVRKYEGEAEERKK 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENCTGTTPROKVKTHFSRCPKQYKHYCIHGRCRFVVDEQTPSCICEKGYFGARCERVDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KYVKELRAPSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KYIEHLEAVIC 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DLLRVTLSSKPQALATPSK--EEHGKRKKKGKGLG----
Ig-like #status predicted <IGL
EGF homology <EGE*>
hydrophobic #status predicted
hydrophobic #status predicted
ding site: carbohydrate (Asn) (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    42.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 119.5; DB Pred. No. 0.029; 5; Mismatches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. 0.00097;
2; Mismatches 21;
                                                                                                                                                                                                                                                                        shown
                                                                                                                                                                                                                                                                                                                                                                                                           shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D.; Ono, Y.; Sasada,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-Apr-1993 #text_change 09-Jul-2004
  (covalent) #status
                       <HYD>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KKRDPCLRKYKDFCIHGEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        æ.;
                                                                                                             thymus; EGF homology;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Z . ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Igarashi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8;
predicted
                                                                                                                                                        family. It is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .Nakagawa,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ×.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Folkman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    T.; Miyaç
                                                                                                                                                                                                                                                                                                                                       PID:g26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          intera
                                                                                                                                                            functi
                                                                                                                immun
```

```
epidermal growth factor precursor [validated] - human
NyAlternate names: urogastrone precursor
C;Species: Homo sapiens (man)
C;Date: 30-Nov-1980 #sequence revision 14-Aug-1998 #text change
C;Accession: A2531; A01388; A33517; A29721; S45282; S45283
R;Bell, G.I.; Fong, N.M.; Stempien, M.M.; Wornsted, M.A.; Caput,
Nucleic Acids Res. 14, 8427-8446, 1986
A;Title: Human epidermal growth factor precursor: cDNA sequence,
A;Reference number: A25531; MUID:87066721; PMID:3491360
A;Accession: A25531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 14
B71618
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Experimental source: C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Title: Chromosome 2 sequence of the human malaria parasite A;Reference number: A71600; MUID:99021743; PMID:9804551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Gardner, M.J.; Tettelin, H.; Carucci, D.J.; Cummings, L.M.; Aravind, L.; Kc.; Pertea, M.; Salzberg, S.; Zhou, L.; Sutton, G.G.; Clayton, R.; White, O.; Science 282, 1126-1132, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          merozoite surface antigen MSP-4 (EGF domain) PFB0310c - malaria parasite (PC;Species: Plasmodium falciparum
C;Date: 13-Nov-1998 #sequence_revision 13-Nov-1998 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ.
                                                                                                                                                                                                                RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Status: preliminary; nucleic acid sequence not shown; A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: B71618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: UNIPROT:Q8T7U3; UNIPROT:Q8T7U7; UNIPROT:Q8T7U6; UNIPROT:Q8T7T9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Residues: 1-272 <GAR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PFB0310c
                                                                                                                                                                                                                                                                                                                                                                               151
                                                                                                                                                                                                                                                                                                         203
                                                                                                                                                                                                                                                                                                                                             204
                                                                                                                                                                                                                                                                                                                                                                                                                  144
                                                                                                                                                                                                                                                                                                                                                                                                                                                      124
                                                                                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ហ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B71618
                                                                                                                                                                                                                                                                                                                                                                                                                  KKTEAIPKKVVQPSSSNSGGHVGEEEDHNEGEGEHEEEEEHEEDDDDEDDDTYNKDDLED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CNETAKSYCVNGGVCYYIEGINQLSCKCPNGFFGQRCLEKLPLRLYMPDPKQKAEELYQK 420
                                                                                                                                                                                                                                                                                                       AIAAFMSAVIL
                                                                                                                                                                                                                                                                                                                                                                          QNFCIHGE-----CKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIALA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENTSDK 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LLPPAPVVLSLLILGSGH-YAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSGSEI 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SLSKIALAAIAAFMSAVILTAVAVITVQLRRQ---YVRKYEGEAEERKKLRQENGNVH
                                                                                                                                                                                                                                                                      FITIFVVILLI
                                                                                                                                                                                                                                                                                                                                           EDLCKHNNGGCGDDKLCEYVGN-RRVKCKCKEGYKLE--GIECVELLSLASSSLNLIFNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RVLTITGICVALLVVGIVCVVAYCKTKKQRRQMHHHLRQNMCPAHQNRSL--ANGPSH 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SHKKE--NSQESANGKDDVKEEKKTNEKKDDG--KTDKVQEKVLEKSPK---ESQMVDDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IVPENGRMLNMRILGEEKPNVDGVSTSNTPGGNESSSASPNLSDAAEKKDEKEASEQGEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CNAEFQNFCIH-GECKYIEHLEAVTCKCQQEYFGERCGEK-----SMKTHSMIDS 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8.8%;
                                                                                                                                                                                                                                                                      271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8.9%;
25.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PKRKKKGGKNGKNRRNRKKK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 115; DB Pred. No. 0.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 117; DB Pred. No. 0.26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2
•
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ۲.
د
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 272;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           L.M.; Aravind, L.; Koonin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Plasmodium falciparum
                                                                                                                      09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                parasite (Plasmodium
                                                                                D.; Ku,
                                                                                                                                                                                                                                                                                                                                                                                                                                                        NPCNAEF 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                  Ľ.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               249
                                                                                                                                                                                                                                                                                                                                                                              202
                                                                                                                                                                                                                                                                                                                                                                                                                  203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90
                                                                                                                                                                                                                                                                                                                                             260
                                                                                    Urdea,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Smith,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Б.V.
                                                                                    M.S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          H.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
```

type: mRNA

expression

'n

vitro

an

```
F;33-1032/Domain: extracellular #status predicted <EXTS
F;43-479/Region: EGF precursor long repeat <LR1>
F;46-85/Domain: LDL receptor YWTD-containing repeat homology <YW01>
F;46-127/Domain: LDL receptor YWTD-containing repeat homology <YW02>
F;128-169/Domain: LDL receptor YWTD-containing repeat homology <YW03>
F;170-211/Domain: LDL receptor YWTD-containing repeat homology <YW03>
F;170-211/Domain: LDL receptor YWTD-containing repeat homology <YW03>
F;170-211/Domain: LDL receptor YWTD-containing repeat homology <YW04>
F;212-256/Domain: LDL receptor YWTD-containing repeat homology <YW05>
F;212-356/Domain: EGF homology <EG1>
F;318-354/Domain: EGF homology <EG2>
F;401-436/Domain: EGF homology <EG3>
F;401-436/Domain: EGF homology <EG4>
F;480-954/Region: EGF precursor long repeat homology <YW07>
F;480-954/Region: EGF precursor long repeat homology <YW08>
F;547-566/Domain: LDL receptor YWTD-containing repeat homology <YW08>
F;547-564/Domain: LDL receptor YWTD-containing repeat homology <YW09>
F;654-694/Domain: LDL receptor YWTD-containing repeat homology <YW109>
F;654-694/Domain: LDL receptor YWTD-containing repeat homology <YW109>
F;654-694/Domain: LDL receptor YWTD-containing repeat homology <YW11>
F;695-731/Domain: LDL receptor YWTD-containing repeat homology <YW11>
F;745-780/Domain: EGF homology <EG5>
F;835-668/Domain: EGF homology <EG6>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A,Note: expressed recombinant protein C;Comment: Epidermal growth factor (EGF) stimulates the proliferation and differentiatic gastrointestinal cell proliferation.
C;Comment: EGF is released in the pancreas, small intestine, mammary gland, and (in some C;Comment: The EGF precursor is found in kidney as a receptor-like membrane-bound proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule type: protein
A;Roelecule type: protein
A;Roelecule type: 829-834, 'X',836-839, 'X',841-845, 'X',847-848 <TSU>
A;Note: this is the amino-terminal sequence of a high molecular weight form of EGF R;Svoboda, M.; Bauhofer, A.; Schwind, P.; Bade, E.; Rasched, I.; Przybylski, M. Biochim. Biophys. Acta 1206, 35-41, 1994
A;Title: Structural characterization and biological activity of recombinant human A;Reference number: 845282; MUID:94242778; PMID:8186248
A;Accession: S4528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: UNIPROT:P01133; EMBL:X04571; NID:g31120; PIDN:CAA28240.1; PID:g31121 A;Note: 708-Met was also found A;Note: intron positions were also determined R;Gregory, H.; Preston, B.M. Int. J. Pept. Protein Res. 9, 107-118, 1977 A;Title: The primary structure of human urogastrone. A;Reference number: A01388; MUID:77117897; PMID:300079 A;Accession: A01388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Tsukumo, K.; Nakamura, H.; Sakamoto, S.
Biochem. Biophys. Res. Commun. 145, 126-133, 1987
A;Title: Purification and characterization of high molecular weight human epidermal grow
A;Reference number: A29721; MUID:87241488; PMID:3297054
A;Accession: A29721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: protein
A; Residues: 971-1023 < FUR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Molecule type: protein
A;Residues: 971-1023 <GRE>
A;Note: some of the molecules lack Arg-1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Residues: 1-1207 < BEL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;Molecule type: protein
;Residues: 'MKKYP',970-1023 <SV2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Note: expressed recombinant protein; Accession: S45283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Furuya, M.; Akashi, S.; Hirayama, K.
iochem. Biophys. Res. Commun. 163, 1100-1106, 1989
Title: The primary structure of human EGF produced by genetic engineering, studied.
Reference number: A33517; MUID:89391964; PMID:2789514
Accession: A33517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cross-references: GDB:119105; OMIM:131530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gene: GDB:EGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Molecule type: protein
Residues: 'M',971-1023 <SVO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   form #status pred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YWTD-contag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EGF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 epide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              γģ
```

```
밁
                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                               F;1033-1057/Domain: transmembrane #status predicted <TMM>
F;1058-1207/Domain: intracellular #status predicted <INT>
F;31058-1207/Domain: intracellular #status predicted <INT>
F;318-30,325-339,341-354,360-371,367-380,382-395,401-412,408-421,423-436,439-451,447-4-fide bonds: #status predicted
fide bonds: #status predicted
F;976-990,984-1001,1003-1012/Disulfide bonds: #status experimental
    뭐
                                        S
                                                                                                                                                                         밁
                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          F;874-910/Domain: EGF homology <EG7>
F;916-951/Domain: EGF homology <EG8>
F;971-1023/Product: epidermal growth factor #status
F;976-1012/Domain: EGF homology <EG9>
                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local &
1011 RCQYRDLKWWELRHAGHGQ---
                                                                                                                    121 SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIH-GECKYIEHLEAVTCKCQQEYFGE
                                                                                                                                                                                                                                                     876 MGVPVCPPAS---SKCINTEGGYVC--RCSEGYQG----
                                                                                                                                                                                                        61 SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                                                                                                                                                                                                                                                                            50;
                                                                                                                                                                                                                                                                                           1 MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                Similarity
                                        RCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITV 221
                                                                                                                                                                  ---VHSCGENASCTNTEGG----YTCMCAGRLSEPGLICPDST----
                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                            8.8%;
                                                                                -HYSVRNSDSECPLSHDGYCLHDGVCMYIEALDKYACNCVVGYIGE
                                                                                                                                                                                                                                                                                                                                          22;
                                                                                                                                                                                                                                                                                                                                     Score 114.5; I
Pred. No. 0.6;
22; Mismatches
-QOKVIVVAVCVVVL 1043
                                                                                                                                                                                                                                                                                                                                                                              DB 1;
                                                                                                                                                                                                                                                                                                                                        95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   experimental <EGF>
                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                Length 1207;
                                                                                                                                                                                                                                                   -----DGIHCLDIDECQLG
                                                                                                                                                                     -PPPHLREDDH-
                                                                                                                                                                                                                                                                                                                                   55;
                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                        179
                                                                                1010
                                                                                                                                                                                                                                                     919
                                                                                                                                                                  965
                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                        φ
```

Search completed: February 26, 2005, 16:45:00 Job time : 42 secs

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ.
     3102244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
   877
607.5
435.5
435.5
221.5
2211.5
2211.5
2211.5
198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
1198.5
119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seq length: 0 seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0
| 81.0
| 71.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-774-076-1
1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             February 26, 2005, 15:50:20 ; Search time 174 Seconds (without alignments) 741.632 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1612378 seqs, 512079187 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MRAPLLPPAPVVLSLLILGS......GEAEERKKLRQENGNVHAIA 252
   GenCore version 5.1.6 Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
   DB
Q62561
AMPR RAT
Q8K3E3
Q645M5
P79199
Q6NY79
HBGF CERAE
HBGF HUMAN
HBGF BIG
Q9W7C5
Q9W7C5
Q9BG62
Q9W7C7
HBGF MOUSE
HBGF AAT
Q9WN7
Q9PXN7
Q9QYM9
Q9P2Y9
Q8NZR5
Q9BG52
Q9BG52
Q9BG52
Q9BG52
Q9BG52
Q9BG53
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9BDH4
Q9BDH3
AMPR_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AMPR_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1612378
 Q06186
Q06177
Q09mn7
Q9gym9
Q9p2y9
Q9p2y9
Q8n2r5
Q9uik5
Q1308
Q81yr6
Q8n3t8
Q81yr6
Q9n885
Q9n885
Q991j81
Q9g218
                                                                                                                                                                                                                                                                     Q6ny79
Q09118
Q09075
Q95075
Q01580
Q9w7c5
Q9bg62
                                                                                                                                                                                                                                                                                                                                                                    Q8k3e3
Q645m5
P79199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P15514 homo sapien
Q9bdh4 sus scrofa
Q9bdh3 sus scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Description
                                                                                                                                                                                                                                                                 8 rattus norv
3 mesocricetu
5 gallus gall
9 ovis aries
9 brachydanio
8 cercopithec
6 cercopithec
5 homo sapien
0 sus scrofa
5 gallus gall
2 oryctolagus
                               7 mesocricetu
9 m tmeff2 pr
9 homo sapien
5 homo sapien
6 homo sapien
6 homo sapien
6 homo sapien
8 homo sapien
8 homo sapien
1 rattus norv
8 cercopithec
 mus musculu
                                                                                                                                                                                                                    rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                      mesocricetu
                                                                                                                                                                                                                                     mus musculu
                                                                                                                                                                                                                                                   cricetulus
                                                                                                                                                                                                                                                                                                                                                                                                                                                      mus musculu
```

P RT	RA RT	₽3	25 25 25	r r	R.	R R	RA:	R RA	<b>R</b> A :	R R A	<b>2</b> 3	P.X	R RP	2 P.	RT	P	R.R.A	R R		323	P.R.	R R P	R O	200	9 E	205	33	DT AC	RESULI AMPR H ID -											
and	Sch "Ge	But	Bla	Whi	Vil	Bosak	Raha	Sta	Dia	Hon Alt	Kla	MED	SEQ	(3) Sub	요:	Sch	X Rie	OES [7]	Mol.	"The	Plo	MED	LT]	Homo Euka	Nam	Amp	201	-10 513	SULT 1 PR HUMAN AMPR			4 4 5 4	4 4 3	4 4	39	ມ (. 20 -	36	ω 4 π	33	,
mouse cI	Schnerch A., "Generation	Butterfield Y.S.N.,	Blakesley R.	ë	Villalon D.K.	harde s	S.S., I	Stapleton M., Sc	Diatchenko L.,	Altschul S.F	Klausner R.D.,	MEDLINE=2238	SEQUENCE FRO TISSUE=Brain	Submitted (C [3]	Genome Sc	ם מ	χ <u>.</u>	0	. Cell. E		Plowman G.D.,	UENCE	I_TaxID=9	gapi ryota	Name=AREG;	Amphiregulin	FEB-1991	01-APR-1990	IAN PUMAN			120 120	120	120	1	123.5	124	128	133	;
cDNA seque	Schein and init	Y.S.N.,	W., Touc	⊥to Mad	, Muzn	cEwan		S	3 (	., Zeeber	.D., Collins F.S.,	8257; Pi	E FROM N.A. Brain;	(OCT-2003)	iences, Seattle	environmental d	Living	FROM N.A.,	Biol. 10	gulin g	Gree	N.A.		(Human) etazoa;		precu	(Rel. 17	Rel.	STANI				9.9							•
sequences.	hein J.E., Jone initial analys	Krzywinski	Touchman J.W.,	. Kett	ם :	, r	_ = =		н •	マルベ	ins F.	PubMed=124		to t	Seatt	erwood	e con F	AND \	10:1969-1	ene er		PubMed=		Chordata Chordata		٥,	7, Last	•	TANDARD;			272 272	272	272	272	177	272	172	372	2
	Jone malys	ins	ું દુ ક	:ema	S		: !	, ,	:	Z -	S	:124		the	ile,		~ ن	/ARI		60.	M.	25.5		lata		55.6	י ה	ate					N N							
99.16	98	ki M.I.	Gre	Ω.3		., McKernan F	Peters	Bonaldo M.F.,	Farmer	B., Buetow K	Wagne	77932		EMBL/Ge	WA (UI	K., Wit	, Danie	VARIANTS VI	81 (1990)	, a	Donald	5643	•			(Colore	equence	ed)	PRT;	į	AI.16	Q70ID2 Q70IE8	OBITL6	OBIOIS	QBITM3	09.T.TM4	QBT7T3	Q91590	Q6PFE7	
899-16903 (2002	more than 15,	, Skalska U.	n E.D., Dickso	Madan A., Rodrigues S., Shevchenko Y., Bouffard	., Lu X., G	Malek J.A.,	Abramson R.	M.F., Casavant T.I	A.A., Rubin G.M.,	Max S T Wand T	L., Shenmen C.M.,	OI=10.1073/pnas.2		enBank/DDBJ database	RL: http://egp.gs.wa	J.K., Witrak L.A., Nickerson D.A.;	els M.R., Chung MV	AL-80 AND CYS-81.		;	V.L., Neubauer M.G.			Craniata; Vertebrata; Eu Catarrhini: Hominidae: E		(Colorectum cell-derived c	e update)		252 AA.	OMULTAN 1.0	SUMBUTS .									
	ull-	lus D.B.			<b>7</b> 0 -	Gunaratne P	, Mullahy		9	Haich F	Schule	42603899 C			ashingto	1 D.A.;	v.,			h factor	, Dist		Č	Euteleostomi		growth 1						Q70id2 Q70ie8	Q8it16	081018	QBitm3	0911m4	Q8t7t3	Q91590	Q6pfe7	2
	length human	•		Sanchez A., G.G.,		P.H.,	₹;	วูน			r G.D.,	9,			on.edu).";	partment	ָ כ			or-related	eche C.M.,			comi;		factor)						plasmodium plasmodium	plasmodium plasmodium	plasmodium	plasmodium	prasmodium	pla		mus musculu	}

뫈

Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).

```
GO; GO:0005615; C:extracellular space; TAS.
GO; GO:0008083; F:growth factor activity; TAS.
GO; GO:0008283; F:cell proliferation; TAS.
GO; GO:0007267; P:cell-cell signaling; TAS.
InterPro; IPR000742; EGF 2.
InterPro; IPR006299; EGF 1ike.
Pfam; pr00008; EGF; 1.
PROSITE; PS00126; EGF 1; 1.
PROSITE; PS01186; EGF—2; FAISE_NEG.
PROSITE; PS0126; EGF—3; 1.
                                                                                                                                                                                                       EMBL; BC009/33, PIR; A34702; A34702. HSSP; Q99075; 1XDT. HCNC:651; AREG
                                                                                                                                                            Genew; HG
H-InvDB;
                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaborative the Swiss Institute of Bioinformatics and the EMPL outst. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/ancor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  amphiregulin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Shoyab M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 101-122.
MEDLINE=93090386; PubMed=1333777;
Culouscou J.-M., Remacle-Bonnet M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIINE-91203875, PubMed-2017164; Cook P.W., Mattox P.A., Keeble W.W., Pittelkow M Shoyab M., Adelman J.P., Shipley G.D.; "A heparin sulfate-regulated human keratinocyte similar or identical to amphiregulin."; Mol. Cell. Biol. 11:2547-2557(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDINES-8320474; PubMed=3413110; MEDINES-8320474; PubMed=3413110; Shoyab M., McDonald V.L., Bradley J.G., Todaro G.J.; "Amphiregulin: a bifunctional growth-modulating glycoprotein produced by the phorbol 12-myristate 13-acetate-treated human breast adenocarcinoma cell line MCF-7."; Proc. Natl. Acad. Sci. U.S.A. 85:6528-6532(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 101-126.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [4]
SEQUENCE OF 101-184.
MEDLINE=89162036; PubMed=2466334;
Shoyab M., Plowman G.D., McDonald V.L., Bradley J.G., Todaro epidermal growth factor family.";
Science 243:1074-1076(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: Bifunctional growth-modulating glycoprotein. Inhibits growth of several human carcinoma cells in culture and stimulates proliferation of human fibroblasts and certain other tumor cells. INDUCTION: By phorbol 12-myristate 13-acetate (PMA). MISCELLANBOUS: AR is a protein containing cysteines in disulfide contain oligosaccharides and/or lipid moieties that are not obligatory for the biological activity. AR may obligatory for the biological activity. SIMILARITY: Contains 1 EGF-like domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               orectum cell-derived
                                                                                                                                                                     HGNC:651; AREG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Factors
                                                                                                                                                        HIX0004290; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OF 101-131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a member
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7:195-205(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ed growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            epidermal growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Carlton G.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pittelkow M.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (CRDGF)
                                                                                                                                                                                                                                                                                                                                   http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      is homologous to factor family.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               autocrine factor is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plowman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Plowman G.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              G.D.,
                                                                                                                                                                                                                                                                                                                                                                                             a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G.J.;
                                                                                                                                                                                                                                                                                                                                                     commercial
                                                                                                                                                                                                                                                                                                                                                                  g
```

```
RESULT
Q9BDH4
ID Q9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OS TOTAL TERMINATION OF THE PROPERTY OF THE PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 252
                                                                                                                                                                                                                                                                                                                                                 Q9BDH4
Q9BDH4;
Q9BDH4;
O1-JUN-2001 (TrEMBLrel 1:
01-JUN-2001 (TrEMBLrel 1:
01-MAR-2004 (TrEMBLrel 2:
            SMART; SM00181; EGF; 1.
PROSITE; PS00022; EGF 1; UNKNOWN 1.
PROSITE; PS50026; EGF 3; 1.
EGF-like domain.
95 178
                                                                                                                                                          -1- SIMILARITY: Contains 1
EMBL; AY028310; AAK27728.1;
HSSP; Q99075; 1XDT.
                                                                                                                                                                                                       SEQUENCE FROM N.A.
Kim J.G., Vallet J.L.,
Submitted (MAR-2001) t
                                                                                      InterPro; IPR006210
Pfam; PF00008; EGF;
                                                                                                                           InterPro;
                                                                                                                                          InterPro;
                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                        Amphiregulin long form.
Sus scrofa (Pig).
                                                                                                                                                                                                                                                                           NCBI_TaxID=9823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cytokine; Dire
Growth factor;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ۲
                                                                                                    IPR000742; EGF 2.
IPR006209; EGF like
IPR006210; IEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LRQENGNVHAIA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SDKPKRKKKGGKNGKNRKNRKKKNPCNABFONFCIHGECKYIBHLBAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SETSPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MRĀPLLPPĀPVVLSLLĪLGSGHYĀĀGLDLNDTYSGKRĒPPSGDHSĀDGPEVTSRSENSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
101
185
142
199
146
154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AĄ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Polymorphism;
        178
                                                                                       ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein sequencing; EGF-like domain; Glycoprotein; olymorphism; Signal; Transmembrane.
                                                                                                                                                                                       to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19
100
184
252
182
221
159
170
181
30
113
119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27895 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                 Rohrer G.A., Christenson o the EMBL/GenBank/DDBJ da
                                                                                                                                                                                                                                                                                                                                                        17,
17,
26,
                                                                                                                                                                                       EGF-like
                                                                                                                                                                                                                                                                                                                                                      Created)
Last seq
Last ann
 amphiregulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              By similarity.
N-linked (GlcNAc.
N-linked (GlcNAc.
N-linked (GlcNAc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         By similarity.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /FTId=VAR_018919.
68C1FA6BCD4D2BED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ۲
->
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Potential By simila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 1308;
Pred. No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /FTId=VAR_018918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Amphiregulin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential.
                                                                                                                                                                                                                                                                                                                                                 sequence update)
annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                     domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                         247
long
                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
.4e-93;
                                                                                                                                                                                                 on R.K.;
databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                  Euteleostomi;
Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Potential). (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
RESULT COBBUILT OF STATE OF ST
                       밁
                                                             S
                                                                                                               밁
                                                                                                                                                       Ś
                                                                                                                                                                                                      В
                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SS
                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                     CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (MAR-2001) to the -!- SIMILARITY: Contains 1 I EMBL; AY028311; AAK27729.1; HSSP; Q99075; 1XDT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-2001 (TrEMBLrel. 17, 01-JUN-2001 (TrEMBLrel. 17, 01-MAR-2004 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR000742;
InterPro; IPR006209;
InterPro; IPR006210;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sus scrofa (Pig)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Amphiregulin short form.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9BDH3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9BDH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .
G
                                                                                                                                                                                                                                                                                           al Similarity
179; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PF00008; EGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          204; Conservative
                                                                                                               61
                                                                                                                                                           13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Н
                                                                                                                                                                                                      ۲
                                                                                                                                                                                                                                                 \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SM00181; EGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                   SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                      SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                         MRAPILPPAPVVLSILIIGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                               domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  PS50026; EGF_3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SDKPKRKKKGGKSGKNRRNRKKKNPCDAEFQNFCIHGDCKYIEHLEAVTCKCYQDYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                      MRAPLLPPAPVVLSLLILCSAHYAAGLDVNGTSSGKGEPFSGDHGAEAFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGEKSMKTHTMVHSDLSKIALAAIAAFVSAMSFTAIAVVITIYLRKRYFREYEGAABERK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVA-VITVQLRRQYVRKYEGEAEERK
                     SDKPKRKKKGGKSGKNRRNRKKKNPCDAEFQNFCIHGDCKYIEHLEAVTCKCYQDYFGER
                                                                                                               SEAPPASEMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KLRQENANAHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KLROENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MRAPLLPPAPVVLSLLILCSAHYAAGLDVNGTSSGKGEPFSGDHGAEAFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .247
                                                                                                                                                                                                                                                                                                                                                                                  95
216 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vallet J.L.,
                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽,
                                                                                                                                                                                                                                                                                                                                                                                  178
23571 MW;
                                                                                                                                                                                                                                                                                                                   71.9%;
81.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EGF_2.
EGF_like.
IEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chordata; Craniata; Vert Cetartiodactyla; Suina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      27336 MW; 6D1FA68DFE4B9957 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rohrer G.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -SGSDYDYAEEYDNEPHISGYIVDDSVRVEQVVKPKRNRTESENT
                                                                                                               SGSDYDYAEEYDNEPHISGYIVDDSVRVEQVVKPKRNRTESENT
                                                                                                                                                                                                                                                                                             16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
                                                                                                                                                                                                                                                                                                                   Score 941;
Pred. No. 9
                                                                                                                                                                                                                                                                                                                                                                                  amphiregulin short; 5DA65FF187ED89DD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1059.5;
                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    No. 7.9e-74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Christenson
                                                                                                                                                                                                                                                                                           9.3e-65;
ches 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vertebrata;
ina; Suidae;
                                                                                                                                                                                                                                                                                                                                        DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2;
                                                                                                                                                                                                                                                                                                                                                                                  form.
CRC64;
                                                                                                                                                                                                                                                                                                                                      Length 216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R.K.;
                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         247;
                                                                                                                                                                                                                                                                                           6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7;
                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239
                     174
                                                                                                               114
                                                                                                                                                       120
                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ν
PAR REPRESENTATION OF THE PROPERTIES OF THE PROP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOUSE
P31955;
P31955;
01-JUL-1993
01-JUL-1993
05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Das S.
Dey S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
                                                                                                                                                                              "Analysis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Endocrinol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
```

```
RA Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S.,
RA Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S.,
RA Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori T.,
RA Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori T.,
RA Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,
RA Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,
RA Schriml L.M., Kanapin A., Matsuda H., Batalov S., Beisel K.W.,
RA Baldarelli R., Hill D.P., Bult C., Corbani L.B., Cousins S.,
RA Balda E., Dragani T.A., Fletcher C.F., Forrest A., Frazer K.S.,
RA Gasterland T., Gariboldi M., Gissi C., Godzik A., Gough J.,
RA Grimmond S., Gustincich S., Hirokawa N., Jackson I.J., Jarvis E.D.,
RA Grimmond S., Gustincich S., Hirokawa N., Jackson I.J., Jarvis E.D.,
RA Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L.,
RA Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L.,
RA Konagaya A., Kurochkin I.V., Lee Y., Lenhard B., Lyons P.A.,
RA Magishima T., Numata K., Okido T., Pavan W.J., Pertea G., Pesole G.,
RA Petrovsky N., Pillai R., Pontius J.U., Qi D., Ramachandran S.,
RA Petrovsky N., Pillai R., Pontius J.U., Qi D., Ramachandran S.,
RA Ravasi T., Reed D.G., Reed D.G., Reid J., Ring B.Z., Ringwald M.,
RA Sandelin A., Sakanka Y., Taylor M.S., Teasdale R.D., Tomita M.,
RA Wilming L.G., Wynshaw-Boris A., Yanagisawa M., Yang I., Yang L.,
RA Wilming L.G., Wynshaw-Boris A., Yanagisawa M., Yang I., Yang L.,
RA Hirozane-Kishikawa T., Komno H., Nakamura M., Sakazume N., Sato K.,
RA Hiraki T., Waki K., Kawai J., Aizawa K., Arakawa T., Pukuda S.,
RA Miyazaki A., Sakai K., Sasaki D., Shibata K., Shinagawa A.,
RA Miyazaki A., Sakai K., Sasaki D., Shibata K., Shinagawa A.,
RA Miyazaki A., Yanshishaki Y.,
RA Kandari S., Havashiz Y.,
RA Hirozane-Kishikawa T., Komin M., Waterston R., Lander E.S., Rogers J.,
RA Hirozane-Kishikawa T., Kayawa K., Saton R., Lander E.S., Rogers J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        O5-Jun----Amphiregulin precurs
Amphiregulin precurs
Name=Areg; Synonyms=Sdgf;
Name=Aregulus (Mouse).
SEQUENCE FROM N.A.
STRAIN=FVB/N; TISSUE=Mammary gland;
STRAIN==22380357; PubMed=12477932; DOI=10.1073/pnas.242603899;
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Strausberg R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Androgen-responsive expression and mitogenic aderived growth factor on an androgen-dependent carcinoma cell line.";
Biochem, Bionhvo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=C57BL/6J; TISSUE=Cecum;
MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. MEDLINE=92287078; PubMed=1318038;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                       Birney E., Hayashizaki Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Amphiregulin is an implantation-specific and progesterone-regulated gene in the mouse uterus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=96174905; PubMed=8592515;
Das S.K., Chakraborty I., Paria B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                         full-length cDNAs
420:563-573(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGEKSMKTHTMVHSDLSKIALAAIAAFVSAMSFTAIAVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Rel. 26, Last sequence up
(Rel. 44, Last annotation
1 precursor (AR) (Schwannom
                                                                                                                                                                                                                                                                                                          the mouse transcriptome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9:691-705(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Res. Commun. 185:103-109(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Schwannoma-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vert
Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOI=10.1210/me.9.6.691;
.C., Wang X.N., Plowman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update
                                                                                                                                                                                                                                                                                                             based
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vertebrata; Euteleostomi;
thi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ጅ
                                                                                                                                                                                                                                                                                                             ខ្ព
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       activity of schwannoma-
t Shionogi mouse mammary
                                                                                                                                                                                                                                                                                                          functional annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               219
J.G.,
M., Schuler G.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 G.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SDGF).
```

Ŧ,

ŝ

œ.

```
뭥
                                                                                                                                                                               Ş
                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                               RARRER RA
                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Sim
Matches 177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., RA Biatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., Scheetz T.E., RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., RA Bonsak S.A., McDwan P.J., McKernan K.J., Abramson R.D., Mullahy S.J., RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Fahey J., Helton E., Kettenan M., Madan A., Rodrigues S., Sanchez A., RA Fahey J., Helton E., Kettenan M., Madan A., Rodrigues S., Sanchez A., Ra Fahey J., Holton E., Young A.C., Shevchenko Y., Bouffard G.G., RA Blakesley R.W., Touchman J.W., Green E.D., Dickeon M.C., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimsood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimsood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimsood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimsood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimsood J., Schmutz J., Myers R.M., RA Rodriguez A.C., Grimsood J., Schmutz J., Myers R.M., RA Rodriguez A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PIR; JH0612; JH0612

HSSP; Q99075; 1XDT.

MGD; MGI:88068; AREG.

InterPro; IPR000742; EGF 2.

InterPro; IPR006209; EGF 1; I.

PROSITE; PS00022; EGF 1; I.

PROSITE; PS01186; EGF 2; FALSE NEG.

PROSITE; PS05026; EGF 3; 1.

Cytokine; EGF 1ike domain; Glycoprote
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
DISULFID
DISULFID
DISULFID
CARBOHYD
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
EMBL;
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EW the European Bioinformatics Institute. There are no restrate by non-profit institutions as long as its content endified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-eor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fransmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55
                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 D12648; BAA02169.1; -. L41352; AAB00472.1; -. AK018590; BAB31296.1; -. BC009138; AAH09138.1; -.
                                                                                                                                                                                                                                    بر
                                                                                                                                                                                                                                                                                           μ
        SDKPKRKKKGGKNGKNRRNRKKKNDCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGER
                                                                                                                       REVSTISEMPSGSE
                                                                                                                                SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT
                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                       MRTPLLELARSVLLLLVLGSGHYAAALELNDPSSGKGESLSGDHSAGGL-----ELSVG
                                                                                                                                                                                                                                                     MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1
27
100
135
192
139
147
147
165
106
241
                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                              26
27
29
39
35
175
215
215
163
174
1174
241
27549 MW;
                                                                                                                                                                                                                                                                                                                                                                  70.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Amphiregulin.
EGP-like.
Fotential.
By similarity.
By similarity.
By similarity.
By similarity.
N-linked (GlcNAc. . . ) (Potential).
N-linked (OlcNAc. . . ) (Potential).
                                                                                                                                                                                                                                                                                                                                    27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Glycoprotein; Growth factor; Signal;
                                                                                                                                                                                                                                                                                                                              Score 918; DB 1;
Pred. No. 6.6e-63;
7; Mismatches 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                  98C61A1B0E75A64E CRC64;
                                                                                             VŠEEYDNEPOISGYIIDDSVRVEOVIKPKKNKTEGEKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                moved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                              41;
                                                                                                                                                                                                                                                                                                                                                                          Length 248;
                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               restrictions on
                                                                                                                                                                                                                                                                                                                      10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cells
                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     broad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           no
                                                                                                                                                  120
                                           180
                                                                                                                                                                                                       54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
O62561
ID 062561
DT 07 01
DT 
RESULT 6
AMPR_RAT
                                                                                                                  뮍
                                                                                                                                                                Ś
                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q62561;
Q62561;
01-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ຫ
                                                                                                            234
                                                                                                                                                              238
                                                                                                                                                                                                                     174
                                                                                                                                                                                                                                                                             179
                                                                                                                                                                                                                                                                                                                              114
                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        177;
                                                                                                                                                                                                                                                                                                                                                                                                                                           55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       248
```

```
SEQUENCE FROM N.A.
MEDLINE-97041064; PubMed-8975671;
Gurskaya N.G., Shagin D.A., Luk'ianov K.A., Vashtutman M.S., Musatkin E.A., Moinova E.V., TaLuk'ianov S.A., Sverdlov E.D.;
"Cloning cDNA for the ha-SDGF gene from a Syriwith increased metastatic potential using subt Biorg, Khim. 22:425-431(1996).

-|- SIMILARITY: Contains 1 EGF-like domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00008; EGF; 1.
SMART; SM00181; EGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; Z66535; CAA91439.1;
HSSP; Q99075; IXDT.
InterPro; IPR000742; EGF 2.
InterPro; IPR006209; EGF like.
InterPro; IPR006210; IEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mesocricetus sp.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Schwannoma derived growth factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10038;
                                                                                                                                                                                                                                                                                                      1 MRAPILPPA-PVVLSILIIGSGHYAAGIDINDTYSGKREPFSGDHSADGFEVTSRSEMSS
                                                                                                                                 TSDKPKRKKKGGKNGKNRRNRK-KKNPCNAEFONFCIHGECKYIEHLEAVTCKCQOEYFG
                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                             RKKLRQENGNVHAIA
                                                         ERCGEKSMKTHSGDDNDLSKTALAATTVFVSAVTLTAVGTVVTVLLRKRHLKEYEBEAEE
                                                                                                                                                                                                                                GSEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKFPQNKTESEN 119
                                                                                   ERCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVA-VITVQLRRQYVRKYEGEAEE
                                                                                                                                                                                                      MRTPLLPRALPVLSLLLILGSGHYAAGLDLNGTTSGKSQAFSGHHNATELVV-----SV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PS00022; EGF 1; UNKNOWN 1.
PS50026; EGF 3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RKKLRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RRRLRQENGTVHAIA 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGEKSMKTHSEDDKDĹŚKIÁVVÁVTIFVŚAIIĹAÁIGIGIVÍTVHĹMKRÝFREYEGETES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVA---VITVQLRRQYVRKYEGEAEB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TEKPKRKKKGGKNGKGRRNKKKKNPCTAKFQNFCIHGECRYIENLEVVTCNCHQDYFGER
                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                               ĀΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                   27381 MW; CD920DD40B3D1063 CRC64;
                                                                                                                                                                                                                                                                                                                                                                           67.0%; Score 877; DB 2; 69.4%; Pred. No. 9.6e-60;
248
                                 252
                                                                                                                                                                                                                                                                                                                                                                     26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       from a Syrian hamster cell line
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    248 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          subtractive hybridization.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vagner L.L.,
Tatosian A.G.,
                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                             10;
                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                               237
                                                                                                                                                                     178
                                                           233
                                                                                                                                   173
                                                                                                                                                                                                                                                                                  54
                                                                                                                                                                                                                                                                                                                      59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                237
                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             233
```

روم

```
S
                   Ş
                                             밁
                                                                                           밁
                                                                                                             S
                                                                                                                                                                                       Query Match
Best Local Sin
Matches 177;
                                                                                                                                                                                     DOMAIN
TRANSMEM
DISULFID
DISULFID
DISULFID
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities
or send a
                                                                                                                                                                                                                                                                                                                 Growth
SIGNAL
                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00022; EGF 1; 1.
PROSITE; PS01186; EGF 2; FA
PROSITE; PS50026; EGF 3; 1.
Cytokine; Direct protein se
                                                                                                                                                                                                                                                                                                                                                                                    RGD; 2149; Areg.
InterPro; IPR000742; EGF 2.
InterPro; IPR006209; EGF_like.
Pfam; PF00008; EGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a checkween the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and for entities requires a license agreement (See http://www.isb-sib-entities requires a license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         factor.";
Nature 348:257-260(1990).

Prinction: Autocrine growth factor a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A., AND PARTIAL SE MEDLINE=91043095; PubMed=2234093; Kimura H., Fischer W.H., Schubert "Structure, expression and function
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalla; Eutheria; Rodentia;
NCBI TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AMPR_RAT
P24338;
                                                                                                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; X55183;
                                                                                                                                                                                                                                                                                                                                                                                                                                                PIR; S1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Name=Areg; Synonyms=Sdgf;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-MAR-1992 (Rel. 05-JUL-2004 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAR-1992
01-MAR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Structure,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fibroblasts.
SIMILARITY: Belongs to the amphiregulin SIMILARITY: Contains 1 EGF-like domain.
                       121
                                              52
                                                                    61
                                                                                                                                                                                                                                                                                                                            factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 3296; S13296.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  s requires a license agreement (See an email to license@isb-sib.ch).
                                                                                                                                                    Similarity
                                                                                                      MRAPLLPPAPVVLSLLILGSGHYAAGLDLNDTYSGKREPFSGDHSADGFEVTSRSEMSSG
             SDKPKRKKKGGKNGKNRRNR-KKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGE 179
                                                          SEISPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENT 120
                                                                                           MRTPSLSLALSVLSLLVLGSGHYAAGLELNGTSSGKGEPSSGDHSAGGLVV---
 SEKP
                                                                                                                                                                                     25
97
133
190
137
145
163
103
236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Rel. 21, Created)
(Rel. 21, Last sequence update)
(Rel. 44, Last annotation update)
precursor (AR) (Schwannoma-derived
KRKKKGGKGGKGRRNRKKKKNPCAAKFQNFCIHGECRYIENLEVVTCHCHQDYFGE
                                                                                                                                                                                                                                                                                                                                                                                                                                      1XDT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAA38967.1; -.
                                                                                                                                                                                     A,
                                                                                                                                                                                                                                                                                                                            Signal;
                                                                                                                                                                                24
96
243
1173
213
150
161
172
172
30
30
236
26633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                   66.9%;
                                                                                                                                                                                                                                                                                                                             Transmembrane.
                                                                                                                                                                                                                                                                                                                                        sequencing;
                                                                                                                                                                                                                                                                                                                                                              FALSE_NEG
                                                                                                                                                                                      ₩.
                                                                                                                                        24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              function
                                                                                                                                                                                  Amphiregulin.
EGF-like.
Potential.
By similarity.
By similarity.
By similarity.
N-linked (GlcNac...)
N-linked (GlcNac...)
N-linked (GlcNac...)
N-linked (GlcNac...)
N-linked (GlcNac...)
N-linked (GlcNac...)
                                                                                                                                                  Score 874.5; DB 1
Pred. No. 1.5e-59;
                                                                                                                                                                                                                                                                                                                  Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE.
3; DOI=10.1038/348257a0;
                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of a
                                                                                                                                                                                                                                                                                                                                       EGF-like domain; Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             as well as a
h astrocytes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            schwannoma-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A
                                                                                                                                                              DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         as a
                                                                                                                                                                                      CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           growth
                                                                                                                                        Indels
                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mitogen
Schwann
                                                                                                                                                                                                (Potential)
(Potential)
(Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Euteleostomi; 
Murinae; Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              factor) (SDGF).
                                                                                                                                                             243;
                                             KPKENKTEGEKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              for a
                                                                                                                                       13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             is in no way
1 for commercial
sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a collaboration - MBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              outstation -
                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              broad
and
                                             110
                                                                                          51
                                                                                                                60
```

```
RESULT
Q645M5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT PRESULT PRESULT
SORRITA RACE OCCUPANTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                             Q645M5
Q645M5;
25-OCT-2004
25-OCT-2004
25-OCT-2004
                                                                                                                                                                                                                        Name=AREG;
Name=AREG;
Gallus gallus (Chicken).
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; C
Wang Y., Li J., Leung P.C.;
"Chicken Amphiregulin Gene: cDNA Cloning, Promoter Analysis,
"Chicken Amphiregulin Gene: cDNA Cloning, Promoter Analysis,
Regulation of its mRNA Expression in the Chicken Ovary.";
Submitted (AUG-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; AY725336; AAU21467.1; -.
SEQUENCE 210 AA; 23665 MW; B977D786740150CB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NON TER
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Amphiregulin (Fragment).
Mesocricetus auratus (Golden hamster)
Eukaryota, Metazoa, Chordata; Craniat
Mammalia; Eutheria; Rodentia; Sciurog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q8K3E3
Q8K3E3;
                                                                                                                              SEQUENCE FROM N.A.
TISSUE=Ovary;
                                                                                                                                                                                      NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                           Amphiregulin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-OCT-2002
01-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AY135447; AAM95451.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q99075; 1XDT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Reese J., Pad (JUL-2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PKRKKKGGKNGKNRRN-RKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STISEMPSGSELSTG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SPVSEMPSSSEPSSGADYDYSEEYDNEPQIPGYIVDDSVRVEQVVKPPQNKTESENTSDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LLPRALPVLSLLLILGSGHYAAGLDLNGTTSGKSQAFSGHHNATELVV-----SVGSEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LLPPA-PVVLSLLILGSGHYAAGLDLNDTYSGKREPPSGDHSADGPEVTSRSEMSSGSEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RRLROENGTAHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RCGEKIMKTQKKDDSDLSKIALAAIIVEVSAVSVAAIGIITAVLLKKREFREYE-EABER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PKRRKKGGKSGKGRRNKKKKKNPCDTEFONFCIHGECKYIENLEAVACNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KKLRQENGNVHAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVIT-VQLRRQYVRKYEGEAEER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165
165 AA;
                                                                                                                                                                                                                                                                                                                                             (TrEMBLrel. (TrEMBLrel. )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (TrEMBLrel.
(TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Paria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165
17986 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ៥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               46.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the
                                                                                                                                                                                                                                                                                                                                               28,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22,
22,
23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -DYDYSEEYDNEPQISGYVIDDSVRVEQVIKPKKNKAEGDKTSDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16;
                                                                                                                                                                                                                                                                                                                                             Created)
Last seq
Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
Last seq
Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 607.5;
Pred. No. 3.
                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi; Galliformes; Phasianidae; Phasiani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7572D02022DAFB26 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                             sequence update)
annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence update) annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                     210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .6e-39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165;
                                                                                                                                                                                                                                          Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    238
```

```
RESULT 10
Q6NY79
ID Q6NY7
AC Q6NY7
                                                                                      밁
                                                                                                                Ś
                                                                                                                                               밁
                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
Q6NY79;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                             NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                              PROSITE; PS00022; EGF 1; UNKNOWN 1.
PROSITE; PS50026; EGF 3; 1.
                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000742; EGF 2.
InterPro; IPR006209; EGF 1ike.
InterPro; IPR006210, IEGF.
Pfam; PP00008; EGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=Welsh Mountain; TISSUE=Mammary gland;
MEDLINE=97179075; PubMed=9027362; DOI=10.1016/S0303-7207(96)03967-6;
POYSYTH I.A., Taylor J.A., Keable S., Turvey A., Lennard S.;
"Expression of amphiregulin in the sheep mammary gland.";
Mol. Cell. Endocrinol. 126:41-48(1997).
-!- SIMILARITY: Contains 1 EGF-like domain.
                                                                                                                                                                                                                                                                                                     EGF-like domain.
                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; Y09830; CAA70973.1; -. HSSP; Q99075; 1XDT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P79199;
P79199;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ovis arīes (Sheep).

Cukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Cetartiodactyia, Ruminantia, Pecora, Bovidae, Caprinae, Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Amphiregulin (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAR-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAY-1997
                                                                                                         168 VTCKCQQEYFGERCGEK 184
                                                                                                                                                     108 VKPPQNKTESENTSDKPKRKKKGGKNIGKNRRINKKKNPCNABFQNFCIHGECKYIEHLEA 167
                                                                                     61
                                                                                                                                                                                                     60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            148
                                                                                                                                                                                                                                                                                                                                                  SM00181;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  88;
                                                                                                                                VKPKKNKTESEKTSDKPKRKKKGGKNGKNRRNRKRKNLCDTEFQNFCIHGKCTFLEQLET
                                                                                 VSCOCYPEYFGERCGER 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 H 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RKNÓVADYŚKTVĹVVVÁVLLŚSISFVÁVLIÍVIVQVŘKKCPQÝÉ-EKBERKKÍRÓENRNS 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMID-SSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVRKYEGEAEERKKLRQENGNV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGKNGKNRRNRKKKNPCNAEFQNFCIHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTH 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PSSSEPSSGADYDYSEEYDNEPQIPGYIYDDSVRVEQVVKPPQNKTESENTSDKPKRKKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PREPÉPAPĆSDYE-BÉEYEEAPLAHQYLVGDLVRVEPVVKPKPAKRGSEKNAGKPRRKN
                                                                                                                                                                                                                                                             77
          PRELIMINARY;
                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (TrEMBLrel. 03, (TrEMBLrel. 03, (TrEMBLrel. 26,
                                                                                                                                                                                                                                                          ĀΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                        9060 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -NKKKGTPCEMBYKNPCIHGECVYLQHLQMATCKCYQDYFGERCGEQFMKTQ
                                                                                                                                                                                                               26.6%;
77.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          33.3%;
                                                                                                                                                                                                 æ
,-
                                                                                                                                                                                            Score 348; DB 2;
Pred. No. 1.5e-19;
8; Mismatches 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25;
                                                                                                                                                                                                                                                    00BE7B59AE685F25 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Created)
       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 435.5; DB 2;
Pred. No. 9.1e-26;
5; Mismatches 59;
       239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           77
       A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                            9
                                                                                                                                                                                                                      Length
                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                         77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    210;
                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9;
                                                                                                                                                                                       Gaps
                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93
                                                   Ş
                                                                                   밁
                                                                                                            Ś
                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        XX MEDLINE=2238255; PubMed=12477932; DOI=10.1073/pnas.242603899;
AA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
AA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
AA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
AA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
AA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
AA Brownstein M.J., Usdin T.B., Toshiyuki S., Caraninci P., Prange C.,
AA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
AA Brownstein M.J., Wedlan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
AA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
AA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hullyk S.W.,
AR Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hullyk S.W.,
AR Arhey J., Helton E., Ketteman M., Madan A., Colbbs R.A.,
AR Ahting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
AR Andriguez A.C., Grinwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
AR Araywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
AR Alones S.J. Marra M.A.,
                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                           PROSITE; PRO0009; EGFTGF.

PROSITE; PS01022; EGF 1; 1.

PROSITE; PS01186; EGF 2; 1.

PROSITE; PS50026; EGF 3; 1.

NON TER

1
                                                                                                                                                                                                                                                                                                                                                                                             EMBL; BC066705; AAH66705.1; ... InterPro; IPR001336; EGF 1. InterPro; IPR001742; EGF 2. InterPro; IPR006209; EGF 1ike. Pfam; PP00008; EGF; 1.
                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jones S.J., Marra M.A.;
Jones S.J., Marra M.A.;
"Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Strausberg R.;
Submitted (MAR-2004) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=Kidney;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brachydanio rerio (Zebrafish) (Danio rerio).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii, Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOC407664 protein (Fragment)
                                                                                                                                                                                                                                                                         rocar
                                                                                151
                                                                                                                                         100
                                                                                                                                                                      99
                                                                                                                                                                                                                              45
                                                                                                                                                                                                                                                          l Similarity 68; Conserv
                                            ITVQLRRQYVRKYEGEAEERKKLRQENGNV
                                                                       CHYQRDLRTHSCVCHGGYSGERCHVFTLPVGKEEQRYSRTTALAVIAVVLS--
                                                                                                 CKYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAV
                                                                                                                              ----RVAFSTKP--KHPSAMPTTEKTKKRKRKGK-GKGRGN--KKNLCKEBYKDFCIHGV
                                                                                                                                              DDSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGE 158
                                                                                                                                                                                                                SADGFEV----TSRSEMSSGSEISPVSEMPSSSEPSSGADYDYSEEY--DNEPQIPGYIV
                    IAILLALRYHKKDDADVESEEKVKLEATSV
                                                                                                                                                                                       SLDRFESGKPRTTEVNLLHTSEKTNITGLQADNGTSVGDD-DYEEDYEGDYELNLP----
                                                                                                                                                                                                                                                                                                                  239
                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                AA,
                                                                                                                                                                                                                                                                                                        27024 MW; 49B7FDFDC91925B7 CRC64;
                                                                                                                                                                                                                                                                  17.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27, Created)
27, Last sequence up
27, Last annotation
                                                                                                                                                                                                                                                       33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                Score 224.5; DB 2
Pred. No. 2.1e-09;
                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence update)
                                              248
                                                                                                                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                  86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    databases
```

Length Indels

23;

Gaps

99 98 8

```
SMART; SM00181; EGF 1; 1.

PROSITE; PS00022; EGF 2; 1.

PROSITE; PS50026; EGF 3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        like
BMC C
                                                                                                                                                                                                                            entities or send a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q09118;
01-FEB-1996
  PROSITE; I
EGF-like o
Receptor;
SIGNAL
PROPEP
CHAIN
                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restructe by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CERAE
HBGF_0
                                                                                                                                   InterPro;
InterPro;
                                                                                                                                                            HSSP; Q99075; 1XDT.
InterPro; IPR000742;
                                                                                                                                                                                       EMBL; M93012; -;
PIR; A41914; A419
                                                                                                                                                                                                                                                                                                                                                                                                                             Brooke J.S. Cha J.-H., Eidels L.;

"Latent transforming growth factor beta-binding protei
1C interact with the extracellular domain of the hepar
1Re growth factor precursor.";

BMC Cell Biol. 3:2-2(2002).

--- FUNCTION: May be involved in macrophage-mediated of
proliferation. It is mitogenic for fibroblasts and
but not endothelial cells. It is able to bind EGF
higher affinity than EGF itself and is a far more
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Localization of a critical diphtheria terminus of the mature heparin-binding of the diphtheria toxin receptor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Naglich J.G., Metherall J.E., Russel D.W., Eidels L.; "Expression cloning of a diphtheria toxin receptor: in heparin-bhidding EGF-like growth factor precursor."; Cell 69:1051-1061(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cercopitheous aethiops (Green monkey) (Grivet).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Cercopithecus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-FEB-1996 (Rel. 33, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Heparin-binding EGF-like growth factor precur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTERACTION WITH FBLN1.
MEDLINE=22328967; PubMed=11846885;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hooper K.P., Eidels L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOXIN-BINDING DOMAIN. MEDLINE=95126975; Pub
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-FEB-1996 (Rel.
05-JUL-2004 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
MEDLINE=92/198386; PubMed=1606612;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Name=DTR; Synonyms=HEGFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Diphteria toxin receptor) (DT-R)
                                                                                                                                                                                                                                                                                                                                   for smdoth muscle cells than EGF (By sin
SUBUNIT: Interacts with FBLN1.
SUBCELIULAR LOCATION: Type I membrane por
released into the extracellular space and
receptor (By similarity).
PTM: O-glycosylated (By similarity).
SIMILARITY: Contains 1 EGF-like domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CERAE
                                                                                                                       PF00008; EGF; 1
                                                                                                                                                                                                                               an
                                                                                                                                                                                                                            réquires a license agreement (S
nn email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biophys. Res. Commun.
                                                                                                                                  IPR006209;
IPR006210;
  ignal;
1
20
63
                                                                                                                                                                                        A41914.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                               NOT_ANNOTATED_CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      44,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PubMed=7826391;
  19
62
148
                                                                                                                                  ; EGF_2.
; EGF_like.
; IEGF.
Potential.
By similarity.
Heparin-binding
                                                      Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             206:710-717(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOI=10.1186/1471-2121-3-2;
                                                                                                                                                                                                                                                                                                                                                                                                                    (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            208
                                                                                                                                                                                                                                          (See
                                                      factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     toxin-binding EGF-like growt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                           protein. Mature HB and probably binds
                                                                                                                                                                                                                                          http://www.isb-sib.
  EGF-like
                                                    Heparin-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein-3 and files heparin-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     growth
                                                                                                                                                                                                                                                                                                                                                                                                                                more potent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HB-EGF)
                                                                                                                                                                                                                                                                                no restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                             and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              identity with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cellular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   domain to the
                                                                                                                                                                                                                                                                                                                                                                                                                                             receptors with
  growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      factor
                                                                                                                                                                                                                                                        and
                                                                                                                                                                                                                                                                                               EMBL
                                                                                                                                                                                                                                                                                                                                                                              HB-EGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HBEGF)
                                                                                                                                                                                                                                                                   is in
                                                                                                                                                                                                                                                                                                         a collaboration
                                                                                                                                                                                                                                                        for
                                                                                                                                                                                                                                                                                                                                                                                                                                mitogen
                                                                                                                                                                                                                                                                                              outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   region
                                                                                                                                                                                                                                            .ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fibulin-
                                                                                                                                                                                                                                                    in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EGF-
                                                                                                                                                                                                                                                                     8 8
```

```
RESULT 12
HBGF_HUMAN
    ACO OCCOO DE DETENDA ACO DE DETENDA ACO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                    SEQUENCE
Kimmerly W., Bouce
Kimmerly W., Bouce
Kadner K., Miguel T., Mill
Kadner K., Martin C.F
Subramanian S., Martin C.F
Subramanian (APR-1998) to t)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HBGF_HUI
Q99075;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
TRANSMEM
DOMAIN
DOMAIN
CARBOHYD
CARBOHYD
DISULFID
DISULFID
DISULFID
MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899; Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Strausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D. Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
                                                                                                                                        SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

Rieder M.J., Livingston R.J., Daniels M.R., Montoya M.A., Chung M.-W.,
Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D.,
Schackwitz W.S., Sherwood J.K., Witrak L.A., Nickerson D.A.;
"NIEHS-SNPB, environmental genome project, NIEHS ES15478, Department
"Genome Sciences, Seattle, WA (URL: http://egp.gs.washington.edu).";
submitted (OCT-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Heparin-binding EGF-like growth factor precursor (Diphteria toxin receptor) (DT-R).
Name=DTR; Synonyms=HEGFL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUN-1994 (Rel.
01-JUN-1994 (Rel.
25-OCT-2004 (Rel.
                                                                                                        TISSUE=Eye
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Higashiyama S., Abraham J.
"A heparin-binding growth
that is related to EGF.";
Science 251:936-939(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Macrophage;
MEDLINE=91157008;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                         FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VGLLMFRYHRRGGYDVENEEKVKLGMTNSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TVQLRRQYVRK--YEGEAEERKKLRQENGN 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KYVKELRAPSCICHPGYHGERCHGLSLPVENRLYTYDHTTILAVVAVVLSSVCL---LVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DLLRVTLSSKPQALATPSK--EEHGKRKKKGKGLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      208
                                                                                                                                                                                                                                                                                                                             , Bondoc M., Cheng J., I
Miguel T., Miller C., P
S., Martin C.H.;
APR-1998) to the EMBL/G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           149
161
161
185
104
104
108
108
116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PubMed=1840698;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       208
160
184
208
144
143
132
143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .A., Miller J., factor secrete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 211.5;
Pred. No. 1.7e
24; Mismatches
                                                                                                                                                                                                                                                                                                                                 EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EGF-like.
O-linked
O-linked
O-linked
By simila:
By simila:
By simila:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Extracellular (Potentia Potential.
Cytoplasmic (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C-terminal (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8D108289A0485AE9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         similarity.
similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  similarity.
                                                                                                                                                                                                                                                                                                                                                                      , Connolly Pitluck S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      211.5;
No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GalNAc. .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1es 58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fiddes J.C., Klagsbrun M.; d by macrophage-like cells
                                                                                                                                                                                                                                                                                                                                                                      K.S., Gunning ., Pollard M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1;
                                                                                                                                                                                                                                                                                                                                 databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (HB-EGF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ここ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KKRDPCLRKYKDFCIHGEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   similarity).
similarity).
                                                                                                                                                                                                                                                                                                                                                                      K.M.,
Rojeski
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                          Ξ
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               159
```

```
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E. RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E. RA Stownstein M.J. (Usdin T.B., Bonaldo M.F.), Casavant T.L., Scheetz T.E. RA Roha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J. Ra Bosak S.A., WcEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W. Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Rahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A. Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., A Whiting M., Wadan A., Young A.C., Shevchenko Y., Bouffard G.G., A Whiting M. Wadan A., Young A.C., Shevchenko Y., Bouffard G.G., A Whiting M. Wadan A., Young A.C., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E., "Generation and initial analysis of more than 15,000 full-length humard mouse cDNA sequences";

"Generation and initial analysis of more than 15,000 full-length humard M. L., Skalska U., Smailus D.E., Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                      EMBL; M60278; AAA35956.1; -..
EMBL; AC004634; AAC15470.1; -..
EMBL; BC033097; AAA43397.1; -..
EMBL; AX164533; AAA46738.1; -..
PIR; A38432; A38432.
PDB; IXDT; X-ray; R=69-147.
Genew; HGNC:3059; DTR.
                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced between the Swiss Institute of Bioinformatics and the European Bioinformatics Institute. There are use by non-profit institutions as long as its conditied and this statement is not removed. Usage modified and this statement is not removed. Usage
                                                                                                                                                                                                                                                                                                         entities requires a license agreement (Some send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Louie G.V., Yang W., Bowman M.E., Choe S.;
"Crystal structure of the complex of diphtheria toxin with an extracellular fragment of its receptor.";
Mol. Cell 1:67-78(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=95138082; PubMed=7836353; DOI=10.1074/jbc.270.3.1015; Mitamura T., Higashiyama S., Taniguchi N., Klagsbrun M., Mekada E. "Diphtheria toxin binds to the epidermal growth factor (EGF)-like domain of human heparin-binding EGF-like growth factor/diphtheria toxin receptor and inhibits specifically its mitogenic activity."; Biol. Chem. 270:1015-1019(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 63-141 AND 143-148, AND CARBOHYDRATE-LINKAGE SITES. TISSUB-Histiocytic lymphoma; MEDLINE-92210596; PubMed=1556128; MEDLINE-92210596; PubMed=1556128; Higashiyama; S., Lau K., Beener G.E., Abraham J.A., Klagsbrun M. "Structure of heparin-binding EGF-like growth factor. Multiple primary structure, and glycosylation of the mature protein."; J. Biol. Chem. 267:6205-6212(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOXIN-BINDING DOMAIN
-InvDB; HIX0005230; IM; 126150; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION: May be involved in macrophage-mediated cellular proliferation. It is mitogenic for fibroblasts and smooth but not endothelial cells. It is able to bind EGF receptor higher affinity than EGF itself and is a far more potent n for smooth muscle cells than EGF.

SUBCELLULAR LOCATION: Type I membrane protein. Mature HB-I released into the extracellular space and probably binds to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              receptor
PTM: Seve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: Contains 1 EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 degradation, O-
(done in HB-EGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     to be biologically active.
PTM: O-linked glycan attachment
degradation, O-glycanase digest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (done
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Several N-termini have been identified forms with N-termini 63, 73 and 74 have
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             purified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   digest suggests m from histiocytic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sites wer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         domain.
                                                                                                                                                                                                                                                                                                                                    noved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                              There are no restrictions ng as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                were determined by Edman
sts mucin-type glycosylation
ytic lymphoma cell line U-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tein. Mature HB-EGF probably binds to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  by di
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ed through a c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           direct sequencing.
en tested and found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                receptors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scheetz T.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          wullahy S.J., ratne P.H., Hulyk S.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sanchez A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mitogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rs with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 forms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>ن</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              þ
                                                                                                                                                                                                                                                                                                                                                                                                        ņ
                                                                                                                                                                                                                                                                                                                                                                                                                                    8
```

```
HBGF
                                                                                                                   RESULT 13
                                                                                                                                                                δ
                                                                                                                                                                                       밁
                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 55
                                                     HBGF PIG
Q01580;
Q01580;
01-FEB-1996
30-MAY-2000
05-JUL-2004
      Name=DTR; Synonyms=HEGFL;
Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Cetartiod
                                           01-FEB-1996 (Rel. 33, Created)
30-MAY-2000 (Rel. 39, Last sequence upo
05-UUL-2004 (Rel. 44, Last annotation upo
Heparin-binding EGF-like growth factor
                                                                                                                                                                                                                                                                                                         TURN
STRAND
SEQUENCE
                                                                                                                                                                                                                                                                                                                                      TURN
STRAND
STRAND
HELIX
TURN
STRAND
STRAND
TURN
STRAND
TURN
                                                                                                                                                                                                                                                                                                                                                                                                                                                 DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GO; GO:0005615; C:extracellular space; TAS.
GO; GO:0005847; C:integral to plasma membrane; TAS.
GO; GO:000514; F:epidermal growth factor receptor binding;
GO; GO:0007517; F:muscle development; TAS.
GO; GO:0008294; P:positive regulation of cell proliferation;
GO; GO:0007165; P:signal transduction; TAS.
InterPro; IPR000742; EGF 2.
InterPro; IPR006209; EGF like.
InterPro; IPR006210; IEGF.
Pfam; PF00008; EGF; 1.
SWART; SW00101; EGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3D-structure; Direct Glycoprotein; Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00022; EGF 1;
PROSITE; PS01186; EGF 2;
PROSITE; PS50026; EGF 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIGNAL
                                                                                                                                                 179
                                                                                                                                                                                       122
                                                                                                                                                                                                          160
                                                                                                                                                                                                                                                100
                                                                                                                                                                                                                            70
                                                                                                                                                                                                                                                                   55;
                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                               VGLLMFRYHRRGGYDVENEEKVKLGMTNSH
                                                                                                                                                              TVQLRRQYVRK---YEGEAEERKKLRQENGN
                                                                                                                                                                                   KYVKELRAPSCICHPGYHGERCHGLSLPVENRLYTYDHTTILAVVAVVLSSVCL---
                                                                                                                                                                                                     KYIEHLEAVTCKCQQEYFGERCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVI
                                                                                                                                                                                                                                           DSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFCIHGEC
                                                                                                                                                                                                                           DLLRVTLSSKPOALAT -- PNKEEHGKRKKKGKGLG----
                                                                                                                                                                                                                                                                                                          208
                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                       134
75
85
108
119
1124
1125
1128
1128
1130
1130
                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                         AA;
       Cetartiodactyla;
                                                                                                                                                                                                                                                                                                                              23067 MW;
                                                                                                                                                                                                                                                                           16.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein factor;
                                                                                                                                                                                                                                                                  23;
                                                                                                                                                                                                                                                                                                                                                                                                                          Or 72, or 73, or 76, or 81.

Heparin-binding EGF-like grc
C-terminal (Potential).

Extracellular (Potential).

Cytoplasmic (Potential).

Cytoplasmic (Potential).

EGF-like.

By similarity.
By similarity.
By similarity.

By similarity.

O-linked (GalNAc. . . ).
O-linked (GalNAc. . . ).
                                                                                                                                                                                                                                                                Score 211.5; DB 1;
Pred. No. 1.7e-08;
3; Mismatches 59;
      Craniata; Vertebrata;
actyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Heparin-binding; Receptor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequencing; EGF-like domain;
                                                                                                                                                                                                                                                                                                       2C43C9D1D8291B51 CRC64;
                                           update)
lon update)
tor precursor
                                                                                             208
                                                                                                                                                                247
                                                                                             A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cell proliferation; TAS
                                             (HB-EGF)
                                                                                                                                                                                                                         KKRDPCLRKYKDFCIHGEC
                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                  Length
      Euteleostomi
Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Signal,
                                             (HBEGF)
                                                                                                                                                                                                                                                                13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TAS
                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                      219
                                                                                                                                                                                                                        121
```

```
밁
                                                                                                                                          S
                                                              5
                                                                                       Query Match
Best Local S
Matches 62
                                                                                                                                        DISULFID
DISULFID
DISULFID
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; Y15731; CAA75740.1;
EMBL; X67295; CAA47709.1;
PIR; S27162; S27162.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <del>-</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vaughan T.J., Pascall
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=93075016; PubMed=1445231;
                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                           SIGNAL
                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00008; EGF;
PROSITE; PS00022; EC
                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000742; EGF_2.
InterPro; IPR006209; EGF_like.
                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                 PROPEP
                                                                                                                                                                                                                                                                                                                                             PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              modified and this statement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (NOV-1997)
                                                                                                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 99-182 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gland.
- PTM: O-glycor
- SIMILARITY: '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           European Bioinformatics Institute. There are no rest
by non-profit institutions as long as its content
lifted and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FUNCTION: May be involved in macrophage-mediated cellular proliferation. It is mitogenic for fibroblasts and smooth muscle but not endothelial cells. It is able to bind EGF receptors with higher affinity than EGF itself and is a far more potent mitogen for smooth muscle cells than EGF (By similarity).

SUBCELLULAR LOCATION: Type I membrane protein. Mature HB-EGF is released into the extracellular space and probably binds to a receptor (By similarity).

TISSUE SPECIFICITY: Macrophages, midbrain, cerebellum, hypothalamus, cerebral cortex, bulbourethral gland, lung, heart restricts.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ventridle, kidney, skin, prostate, seminal vesicle, testis; at l levels in lymph node, thymus, spleen; not detected in pituitary, olfactory bulb, thyroid, duodenum, pancreas, liver, submaxillary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                 110
                                                                                                                                                                                                                                                                                                                                                                                                           099075;
                                       30
                                                                54
                                                                                        62; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JJ 287:681-684(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    O-glycosylated (Probable)
PPQNKTESENTSDKPKRKKKGGKNGKNRRNRKKKNPCNABFQNFCIHGECKYIEHLEAVT
                                       RRGLADGTSNLVSPTESTDQLLPPGGGRGREVLDLEEADL
                                                                                                                                                                                                                                                                                                                   domain;
                                                                                                                                                                                                                                                                                                                                PS50026;
                                                                RSEMSSGSE--ISPVSEMPSSSEPSSGADYDY--SEEYDNEPQIPGYIVDDSVRVEQVVK
                                                                                                                                         208
                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        white;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pascall J.C., E
                                                                                                                                        3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contains
                                                                                                                                                                                                                                                                                                                  Glycoprotein;
                                                                                                                                                                                                                                                                                                                             EGF_1; 1.
EGF_2; 1.
EGF_3; 1.
                                                                                                                                                   23
148
208
208
1161
1144
1121
1132
1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Heart;
                                                                                                   15.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ដ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 EGF-like domain.
                                                                                                                                          ¥
                                                                                        30;
                                                                                      Score 208.5;
Pred. No. 3e-0
30; Mismatches
                                                                                                                                                 Potential.
Cytoplasmic
EGF-like.
By similarity
By similarity
By similarity
By similarity
O-linked (Gal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Brown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                            Potential.
By similar
                                                                                                                                                                                                                                        Heparin-binding EGF-like g C-terminal (Potential). Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     for
                                                                                                                                                              y similarity.
y similarity.
y similarity.
                                                                                                                                                                                                                                                                                                                  Growth
                                                                                                                                         0A7DA97AE30C8967
                                                                                                                                                                                                                                                                             similarity.
                                                                                                                                                     linked (GalNAc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 n K.D.;
heparin-binding
                                                                                                208.5; DB
No. 3e-08;
                                                                                                                                                                                                                                                                                                                factor; Heparin-binding; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      There are no restrictions
                                                                                                                                                                                                                  (Potential)
                                                                                                             DB 1;
                                                                                        75;
                                                                                                                                          CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  epidermal
                                                                                        Indels
                                                                                                               Length
                                                                                                                                                 (By similarity).
                                                                                                                                                                                                                                                                growth
                                                                                                                208;
                                                                                       27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  growth
                                        DLLRADFSSK
                                                                                                                                                                                                                                                                   factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ch/announce,
                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10%
                                                                109
                                       79
```

```
RESULT OPWTOS IN COMMENT OF THE COME
RESULT 15
Q9BG62
ID Q9BG6
AC Q9BG6
                                                                                                                                     문
                                                                                                                                                                   S
                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  target gene, induce Proc. Natl. Acad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00022; EGF 1; PROSITE; PS01186; EGF 2; PROSITE; PS50026; EGF 3; EGF-1ike domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=breed White Leghorn;
MEDLINE=99254107; PubMed=10318950; DOI=10.1073/pnas.96.10.5716;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1999
01-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9W7C5;
01-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9W7C5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000742;
InterPro; IPR006209;
InterPro; IPR006210;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSSP; Q99075; 1XDT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -!- SIMILARITY: Contains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fu S.L., Bottoli I., Goller M., V
Submitted (FBB-1999) to the EMBL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-breed White Leghorn;
Fu S.L., Bottoli I., Goller
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pro S.1., Bottoli I., Goller M., Vogt P.K.; "Heparin-binding epidermal growth factor-like target gene, induces oncogenic transformation. Proc. Natl. Acad. Sci. U.S.A. 96:5716-5721(199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Archosauria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gallus gallus (Chicken)
Eukaryota; Metazoa; Cho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Name=HB-EGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Heparin-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00008; EGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14
                                                                                                                                                                               212
                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          170
                                                                                                                                   181
                                                                                                                                                                                                                                                                      155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AF131224; AAD29416.1;
                                                                                                                                                                                                                                                                                                                69
                                                                                                                                                                                                                                                                                                                                                          95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                                                                                         50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SM00181;
                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                             ILTAVAVITVQLRRQYVRKYEGEAEERKKL
                                                                                                                                                                                                                                                                   IHGECKYIEHLEAVTCKCQQEYFGERCGEKSMKTH---SMIDSSLSKIALAAIAAFMSAV
                                                                                                                                                                                                                                                                                                                                                          GYI VDDSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRRNRKKKNPCNAEFQNFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RGGYDVENEEKVKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               K--YEGEAEERKKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PQALATPSK--EERGKRKKKGKGLG-----KKRDPCLRKYKDFCIHGECKYVKELRAPS 131
                                                                                                                                   IITALLMFRCHKR---
                                                                                                                                                                                                                                                                                                             GDALSELPRVAFLSKPQGPVT-----PKKKGNGNKRRKGKGLGKKRDPCLRKYKDFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CICHPGYHGERCHGLSLPVKNRLYTYDHTTILAVVAVVLSSVCL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CKCQQEYFGERCGEKSMKTHSMIDSSLSKIALAAIAAFMSAVILTAVAVITVQLRRQYVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM N.A.
d White Leghorn;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TrEMBLrel. 12, Created)
(TrEMBLrel. 12, Last sequence update)
(TrEMBLrel. 26, Last annotation updat
ding EGF-like growth factor.
                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Aves; Neognathae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA; 22541 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ..
__!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EGF 2.
EGF 1ike.
IEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chordata; Craniata; Vertebrata; Euteleostomi;
Weognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                         15.2%;
33.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 UNKNOWN_1.
                                                                                                                                   -GVYDVENBEKIKL
                                                                                                                                                                                                                            COPGYHGERCHGLLLPVEHPPSTYDHTTALAVVAVVLSSLCLV
                                                                                                                                                                                                                                                                                                                                                                                                    24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 198.5;
                                                                                                                                                                                                                                                                                                                                                                                                                              Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96:5716-5721(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E82A8D08F5297183 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vogt P.K.;
/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                              No. 1.8e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         212
                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                         61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     growth .";
                                                                                                                                                                                                                                                                                                                                                                                                                                                 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             databases.
                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       factor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -LVIVGLLMFRYHR
                                                                                                                                                                                                                                                                                                                                                                                                                                                 212;
                                                                                                                                                                                                                                                                                                                                                                                                         15;
                                                                                                                                                                                                                                                                                                                                                            154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          229
                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                      211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              188
                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                      ω
```

Q9BG62; Q9BG62;

PRELIMINARY;

PRT;

132

₿

```
밁
                             Ş
                                                              밁
                                                                                            8
                                                                                                                           밁
                                                                                                                                                       Ş
                                                                                                                                                                                                                                                    E SEQUENCE FROM N.A.

A Klonisch T., Wolf P., Hombach-Klonisch S., Vogt S., Kuechenhoff A.,

A Tetens F., Fischer B.;

L Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.

C -- SIMILARITY: Contains 1 EGF-like domain.

R EMBL; AF333182; AAK14375.1; -.

R EMBL; AF333182; AAK14375.1; -.

R InterPro; IPR001336; EGF 1.

DR InterPro; IPR001336; EGF 1.

R InterPro; IPR000742; EGF-2.

DR InterPro; IPR006210; EGF-1ike.

DR InterPro; IPR006209; EGF-1ike.

DR InterPro; IPR006210; EGF-1ike.

DR Pfam; PF00008; EGF; 1.

DR Pfam; PF00008; EGF; 1.
                                                                                                                                                                           Query Match 14.9%; Score 195; DB 2; Length 132; Best Local Similarity 34.9%; Pred. No. 1.8e-07; Matches 44; Conservative 22; Mismatches 52; Indels
                                                                                                                                                                                                                                           PRINTS; PRO0009; EGETGF.

SMART; SM00181; EGET, 1.

PROSITE; PS00022; EGF_1; UNKNOWN 1.

PROSITE; PS00186; EGF_2; 1.

PROSITE; PS50026; EGF_3; 1.

EGF_1ike domain.

NON_TER

132
132
132
SEQUENCE 132 AA; 114628 MW; 6F5ACCC
                                                                                                                                                                                                                                               NON TER
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Heparin-binding epidermal growth factor (Fragment).
Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Lagomorpha; Leporidae; Oryctolagus.
                                               127 VCLLVI 132
                             211 VIĻTAV 216
                                                                                                            91 PQIPGYIVDDSVRVEQVVKPPQNKTESENTSDKPKRKKKGGKNGKNRNRKKKNPCNAEF 150
                                                                                                                                                                                                                                     132
14628 MW; 6F5ACC07E6A0FF4E CRC64;
                                                                                                                                                                             8
                                                                                                                                                                           Gaps
                                                                                                                                                                           2;
```

Search completed: February 26, 2005, 16:44:14